Contaminant Evaluation Of Five Sites Lower Rio Grande Valley National Wildlife Refuge

Prepared for

U.S. Fish and Wildlife Service
Albuquerque, New Mexico

December 1988

WCC File No. 88H1042C Study I.D.# 89-2-109

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

Woodward-Clyde Consultants performed site investigations at five sites owned by the U.S. Fish and Wildlife Service in the lower Rio Grande Valley, Texas from October 24-28, 1988. The objectives of the investigation were (1) to evaluate the presence or absence of contaminants based on laboratory testing of surface and subsurface soil samples and visual observations and (2) to recommend appropriate cleanup and disposal methods. Cost estimates for cleanup and disposal were requested for some sites. Where significant data gaps were apparent regarding potential contamination, recommendations were made for the development of work plans which, if implemented, would supply the missing data.

Only one site, a former municipal dump (Garza), is recommended for further investigation to evaluate potential contamination of the groundwater which was not sampled during this investigation.

A former naval transmitter site (Fronton) was inspected and surface soils were analyzed for PCB contamination. PCB levels of up to 350 parts per million were recorded. Cleanup and disposal of PCB contaminated material is estimated to cost approximately $38,000 - $100,000 depending upon disposal methods.

Analytical testing of surface and subsurface soils from an above-ground trash dump (Cottam) did not reveal significant levels of contaminants. Visual inspection of the site recorded the presence of an empty drum labelled "radioactive" and a 5-gallon bucket of polyurethane coating. Cleanup and disposal costs for all other debris at the site are estimated at approximately $30,000 subject to favorable site conditions for cleanup.

A surface soil sample taken from a site where 55-gallon drums have been illegally dumped (Madero) did not reveal the presence of contaminants. Two drums, however, were found to contain unknown liquids. As a worst case, analytical testing of the liquids would cost approximately $2,000 per sample and disposal by incineration would cost approximately $300 per drum.

Visual inspection and analytical testing of surface soils at a former farm headquarters (Hidalgo) revealed the presence of petroleum hydrocarbons and pesticides. Depending upon the method of disposal, estimated costs for cleanup and disposal are $29,000 - $97,000.

1.0 INTRODUCTION

1.1 BACKGROUND

The U.S. Fish and Wildlife Service (USFWS) recently acquired five tracts of land in the lower Rio Grande Valley, Texas as additions to the Lower Rio Grande Valley National Wildlife Refuge. These non-contiguous tracts are located south and east of McAllen and are accessed via farm roads off Highway 83 (Figure 1-1).

One of the sites (Site 5 on Figure 1-1) is a former farm headquarters and is believed to have been used as a staging area for application of herbicides and pesticides. A former naval research laboratory transmitter site (Site 1 on Figure 1-1) includes three vandalized concrete buildings with floor tile containing asbestos as well as transformers and capacitors that contained PCB fluids. Two tracts have been used as unregulated dumps (one uncovered [Site 2] and the other covered [Site 3]). The final site (Site 4) adjacent to a recreation area, contains nine 55-gallon drums that were dumped within the past year inside the USFWS fence surrounding the property.

While future access and use of these sites can be controlled by the USFWS, the previous uses are of concern. In addition to a desire to return the tracts to natural wildlife habitat, the USFWS has, by acquiring the tracts, assumed responsibility for any hazardous substances remaining on site and the cleanup and disposal of these materials. This clean-up will include not only the source materials, but any soils or structures contaminated at regulatory levels by the source(s).

Some contaminant sources were readily apparent. For instance, the transformers, even if empty, may contain residuals of PCBs, and may have been the source of spills at the site. Other potential contaminate sources were unknown (i.e., the contents of the two dump sites, suspected herbicide and pesticide containers at the former farm headquarters, and any contents in the 55-gallon drums). The impacts on surrounding soil and water from any identified potential sources were unknown.

1.2 SCOPE OF SERVICES

Given the considerable unknowns associated with the five sites, the USFWS contracted with Woodward-Clyde Consultants to conduct a preliminary evaluation of the sites. This investigation involved a field program to locate suspected contaminant sources and sample soils in potentially contaminated areas. The field program was conducted from October 24-28, 1988. Samples obtained were analyzed, as appropriate, for PCBs, the compounds specified on the Hazardous Substances List (i.e., CERCLA target compounds), volatiles, metals and pesticides, herbicides and other specified compounds.

Based upon the results of the field investigation and analytical testing, recommendations were developed for each site. Such recommendations could include no further action, procedures and cost estimates for cleanup and disposal, or recommendations for further sampling.

1.3 REPORT ORGANIZATION

The following chapters in this report are devoted to a specific site. Included are a description of the site, details of the field sampling program, summaries and analyses of the laboratory testing, and recommendations. These chapters are as follows:

Chapter 2 - Former Naval Transmitter Site (Fronton, Site 1)

Chapter 3 - Municipal Garbage Dump (Garza, Site 2)

Chapter 4 - Above-Ground Trash Dump (Cottam, Site 3)

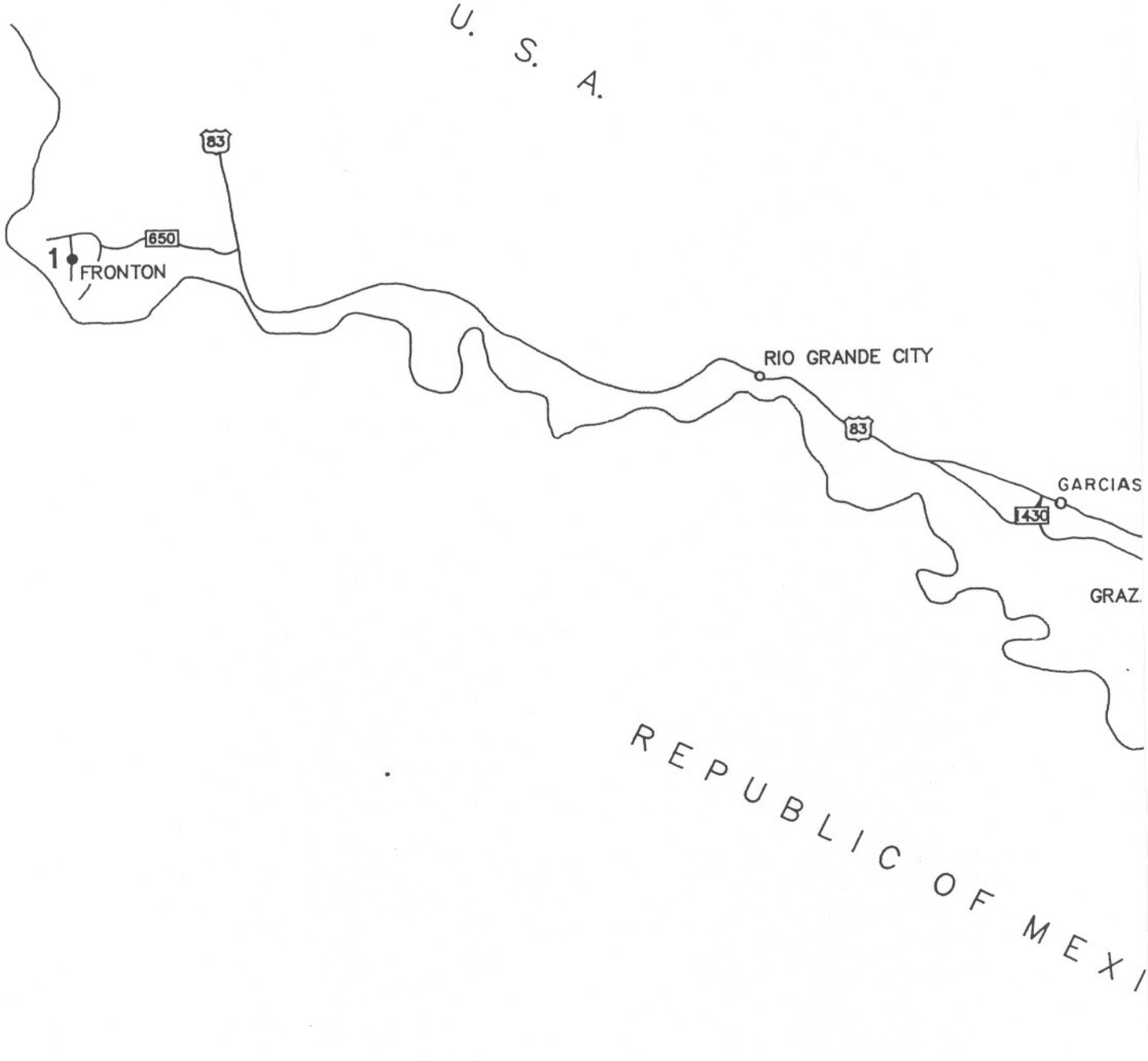
Chapter 5 - 55-Gallon Drum Site (Madero, Site 4)

Chapter 6 - Former Farm Headquarters (Hidalgo, Site 5)

Supporting appendices present photographs taken during the site investigations (Appendix A), representative unit rates for hazardous materials cleanup services (Appendix B), and current federal and Texas regulations governing asbestos (Appendix C). A supplemental volume contains copies of the complete analytical testing results for the five sites.

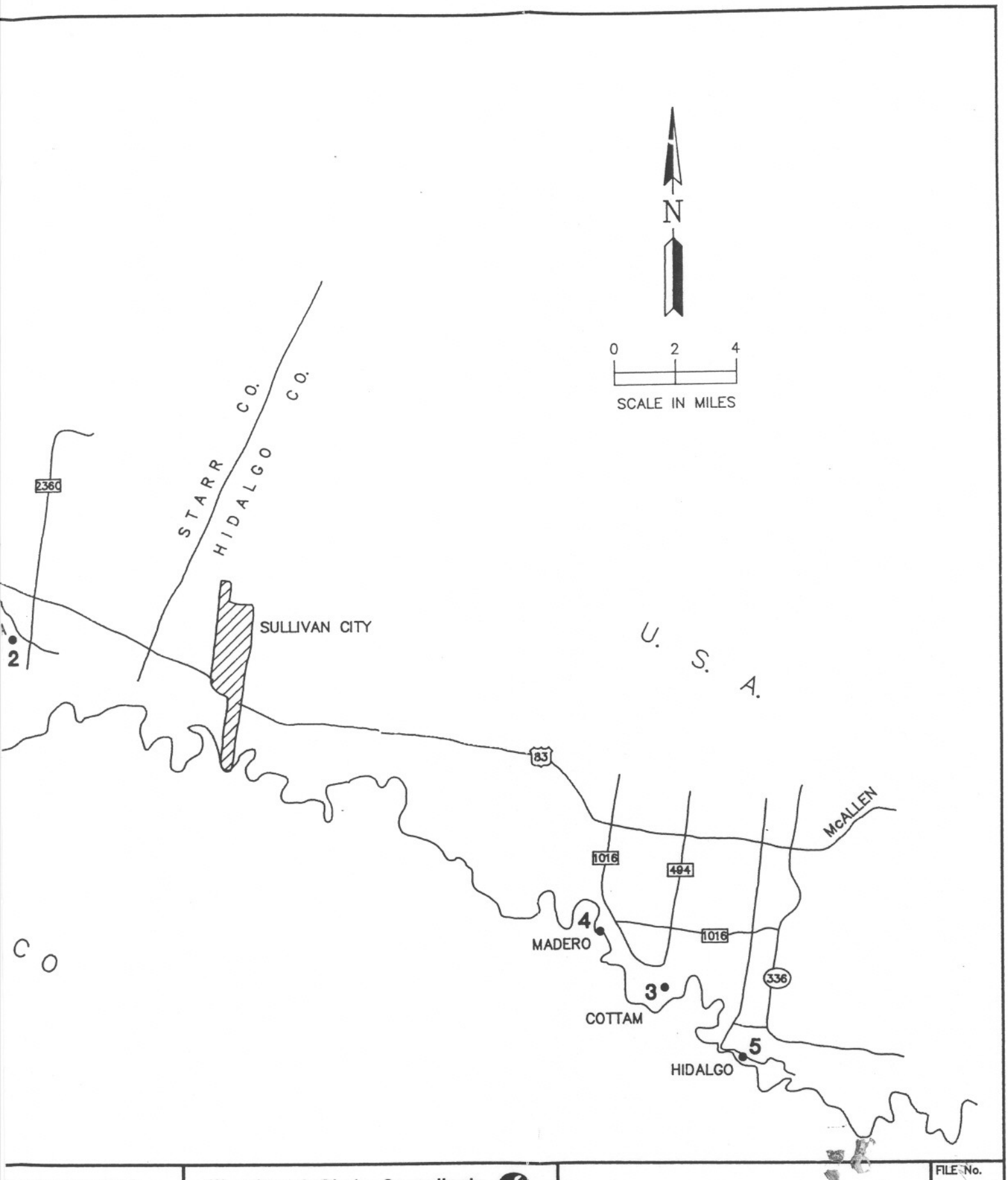
001.gif

88104215



NAME CONTAMINANTS

FOR U.S. FISH & W



S ASSESSMENT	Woodward-Clyde Consultants			LOCATIONS OF FIVE SITES	FILE No. 88H10420
LDLIFE SERVICE	SCALE: NOTED	MADE BY: P.R.	DATE: 12/20/88		FIGURE 1–1
		CHECKED BY:	DATE:		

2.1 SITE LOCATION AND DESCRIPTION

Site 1 is located in Starr County, 8 miles west of Roma via Highway 83 and Farm Road 650. The site is a long, narrow strip approximately 300 ft wide and 1 mile long trending roughly north-south (Figure 2-1). The site is accessible through a gate at the north end of the site.

Site 1 is covered with dense brush and trees with a paved road running the entire length of the site. Three equally spaced concrete block buildings exist east of the site road. To the north lies the north amplifier building (Figure 2-2). The north side of the north amplifier building is paved from the road and contains a concrete pad with attached transformer at the southeast corner. Approximately 1600 ft south lies the central transmitter building, the largest of the three buildings (Figure 2-3). Approximately 100 ft north of the building is a metal pump house. Just southeast of the pump house is a concrete pad of a former Central Power and Light (CPL) substation containing one fixed and three overturned transformers. The area between the pump house and the central transmitter building is paved with asphalt. A small, wooden storage building lies approximately 100 ft south of the central transmitter building. An irrigation ditch transects the site at its width approximately 200 ft south of the central transmitter building (Figure 2-4). About 1600 ft south of the central transmitter building lies the south amplifier building (Figure 2-5). A concrete pad, upon which an anchored transformer rests, is found at the northeast corner of the building. The south entrance to the south amplifier building is paved from the site road.

The onsite buildings have been heavily vandalized and contain asbestos tile and debris.

2.2 SITE HISTORY

Site 1 is a former Navy transmitter site. Data from the General Services Administration (GSA) indicates that the site was used as a space surveillance station. GSA excess documents of the site reveal that most of the structures were built in 1965. Building plans show buried coaxial cable connecting the three concrete block buildings. Just west of the site road, a mile-long antenna once existed adjacent to the west site fence. Buried coaxial cable also connected the antenna to the three buildings. Water from the irrigation ditch was pumped from the pump house through conduits enclosing the buried coaxial cables to regulate their temperature. A sump pit at the northwest corner of the central transmitter building may have been part of that temperature regulating system. Early pictures of the concrete block building show air conditioning systems resting on the now vacant concrete pads which are connected to each building. The smaller (usually 4' x 2') concrete pads located off a corner of each building were shown to contain either an exhaust or air condition compressor.

2.3 FIELD INVESTIGATIONS

Field investigations at Site 1 included a reconnaissance of the area surrounding the buildings and surface soil sampling. A reconnaissance of the area within 50 yards of the building for transformers and soil staining was performed. Surface soil samples were collected near the transformer pads of each block building and from within the central irrigation ditch.

2.3.1 Site Reconnaissance

A reconnaissance of the area within 50 yards of each concrete block building and associated structure was conducted to locate all transformers and any oil staining on the soil or pavement.

A total of six transformers were located within the areas surrounding the buildings. One transformer was fixed to the concrete pad 10 ft southeast of the north amplifier building. Four more transformers were located on and surrounding the former CPL

substation pad approximately 100 ft northeast of the central transmitter building. One of the transformers remained anchored upright at the south end of the pad. The other three transformers lay overturned and scattered about the pad. The sixth transformer was found anchored upright onto the concrete pad 10 ft north of the northeast corner of the south amplifier building. It should be noted that the dense brush prevented the reconnaissance of some areas.

A reconnaissance of the area surrounding the buildings was conducted to locate any oil staining which may be present on the soil or pavement. The dense vegetation growth prevented inspection of the soil surface in many areas. However, the transformer pads and their immediate areas showed no visual evidence of oil staining.

2.3.2 Surface Soil Sampling

Strict sampling and decontamination protocols were followed to satisfy the minimum QA/QC requirements of data quality and reproducibility. Samples were collected using a decontaminated stainless steel knife or trowel. Sampling equipment was decontaminated prior to each sample collection. Equipment decontamination consisted of an Alconox detergent wash followed by a distilled water rinse. Decontaminated equipment was immediately wrapped in aluminum foil until sampling. The surface of each sampling location was cleared of any organic or foreign matter. The upper surface of soil was removed to expose a fresh soil surface for sampling. Samples were sealed in glass jars with Teflon lids, labeled, and iced for shipment.

Surface soil samples were collected near the transformer pads associated with each concrete block building and from within the central irrigation ditch transecting the width of the site. A total of ten soil samples and one duplicate soil sample were collected from Site 1.

One surface soil sample was collected near the north amplifier building. Sample 1-SS-1 was collected downslope (4 ft north) of the transformer pad (Figure 2-2). The sample contained no visual contamination or odor.

A total of seven surface soil samples and one soil duplicate sample were obtained from the pump house and the area surrounding the CPL pad north of the central transmitter building (Figure 2-3). Sample 1-SS-2 was collected from the middle of the pump house floor. Sample 1-SS-3 was collected 24 inches north of the CPL pad. Sample 1-SS-4 was collected 24 inches east of the CPL pad. Sample 1-SS-5 was collected 24 inches south of the CPL pad. Samples 1-SS-6 and 1-DUP-1 (split of 1-SS-6) were collected downslope 12 ft north of the CPL pad. Sample 1-SS-7 was collected downslope 14 ft east of the CPL pad. Sample 1-SS-8 was collected downslope 15 ft southeast of the CPL pad. None of these samples contained any visual contamination or odor.

One surface soil sample was collected within the central irrigation ditch which transects the site at its width. Sample 1-SS-9 was collected 18 ft east of the site road within the southern central irrigation ditch (Figure 2-4). The sample contained no visible contamination or odor.

The last surface soil sample was collected downslope of the transformer pad north of the south amplifier building. Sample 1-SS-10 was collected 10 ft north of the transformer pad downslope (Figure 2-5). The sample did not contain any visual contamination or odor.

2.4 ANALYTICAL RESULTS

2.4.1 Sample Analyses and Results

All of the ten soil samples were sealed in glass jars, labelled and shipped to Keystone Environmental Resources laboratory in Houston, Texas. The samples were analyzed for polychlorinated biphenyls (PCBs) according to EPA's method SW-846-8080 (3rd Edition, November 1986). The results are summarized in Table 2-1. As seen in Table 2-1, only one of the types of PCBs, arochlor-1260 was detected above detection limits. Other types of PCBs, arochlor-1016, 1221, 1232, 1242, 1248 and 1254 were below the detection limits. The concentration of arochlor-1260 in the sample 1-SS-1 collected from the north amplifier building and its vicinity is 80 mg/kg.

From the central transmitter building and its vicinity, seven samples 1-SS-2 through 1-SS-8 and one duplicate (duplicate of 1-SS-6) were collected and analyzed. Of these, only of the samples, 1-SS-5, yielded elevated levels of arochlor-1260 at 350 mg/kg. This sample was collected within 24 inches south of the concrete pad of a former electrical substation that housed one fixed and one overturned transformer. Likewise, sample 1-SS-3 collected within 24 inches north of the CPL pad contained low levels of arochlor-1260 at 3.5 mg/kg, which is above the detection limit. Two other samples 1-SS-4 and 1-SS-8, yielded only indications of the presence of arochlor-1260. Therefore, it appears that while contamination of soil with PCBs may exist near the CPL pad near the sample location 1-SS-5, it may not be widespread.

The one surface soil sample, 1-SS-9, collected within the central irrigation ditch 18 ft east of the site road (Figure 2-4), did not contain any of the PCB compounds above detection limits.

Near the south amplifier building, a sample (1-SS-10) was collected north of the concrete pad where an anchored transformer rests. This sample also yielded positive levels of arochlor-1260 at 17 mg/kg while other types of PCBs were below detection limits.

2.4.2 Laboratory QA/QC

All chemical testing at Keystone was performed as per EPA's QA/QC protocols. The results of the laboratory QA/QC are discussed below.

- Holding Times - All of the extractions required for analyses were performed the day after the samples were collected in the field. This is within the 7-day holding time limitation for extraction. Following soil extraction, the extracts were analyzed 10 to 12 days later, well within the 40-day holding time limit.

- Matrix Spike - One of the samples (1-SS-3) was spiked with 2916 µg/kg of arochlor-1254 and analyzed following extraction in duplicate. The spike recoveries were 53 and 62 percent, well within the recovery

limits. The percent difference between the duplicate spiked samples was only 16 percent, which is also within the prescribed limits as well. This suggests that the accuracy and precision of analyses were satisfactory.

- Method Blanks - One soil and one water sample were analyzed as blanks and none of the analytes of interest were detected. This suggests that there are no laboratory background levels of PCBs and that the sample results are not false positives.

In addition to the laboratory QA/QC, the field duplicate 1-DUP-1 (a split of sample 1-SS-6) data and the results of 1-SS-1 can be compared to estimate the precision of chemical analyses. Since both the samples did not contain any of the PCBs above detection limits, the percent differences cannot be calculated; however, good precision is indicated because of the consistency of results between the two. The trip blank submitted as part of the sample set also did not yield any detectable levels of PCBs.

In summary, the field and laboratory QA/QC results suggest that there are no extraneous sources of PCBs that may have contaminated the samples following collection and that the sample results are within the accuracy and precision limits of practice.

2.4.3 Discussion

The arochlors measured in soil near transformers are technical mixtures of a number of individual polychlorinated biphenyls. In the designation of the individual arochlors (see Table 2-1), the first two digits designate whether they are mixtures (10 is not a mixture and 12 designates that the preparation is a mixture). The last two digits represent approximate chlorine content by weight. In Table 2-1, the only mixture detected was arochlor-1260 (a mixture that contains approximately 60 percent by weight of chlorine). This mixture contains varying proportions of tetra, penta, hexa, hepta and octa-chlorinated biphenyls with an average molecular weight of 375.7. These heavier compounds have low aqueous solubility, low vapor pressure and high resistance to biodegradation.

The presence of arochlor-1260 in soil in the vicinity of transformers suggests that PCBs may have spilled in the past onto the soil. Because of the properties of arochlor-1260 described above, their presence in the soil is detrimental to the environment. A typical cleanup level of PCBs in the soil is 50 mg/kg (Toxic Substances Control Act), and levels above this limit were found in a sample of soil near the north amplifier building and in one soil sample collected near (within 2 ft) the CPL pad near the central transmitter building. Samples collected further away from the CPL pad contain lower levels of PCBs (<50 mg/kg) or well below detection limits. Therefore, it appears that in this CPL pad area, the areal distribution of PCB contamination is limited. Near the north amplifier building, the distribution of PCB levels in soil cannot be estimated because only one sample was collected from this area.

Since the soil sample 1-SS-10 was collected 10 ft north of the transformer pad downslope, one cannot rule out that higher levels of PCBs may be present close to the transformer. However, based on the present data, there does not appear to be any soil that may require cleanup near the south amplifier building.

2.5 REQUIREMENTS AND RECOMMENDATIONS FOR PCB CLEANUP

2.5.1 Applicable Agencies and the National Policy

The U.S. Environmental Protection Agency (EPA) under the authority of the Toxic Substances Control Act (TSCA) Section 6(e) and 40 CFR Section 761.60(d), determined that polychlorinated biphenyl (PCB) spills must be controlled and cleaned up. On April 2, 1987, the U.S. EPA issued a final rule establishing a National PCB Spill Cleanup Policy. The policy became effective May 4, 1987, and imposes variable cleanup standards based on the mass of PCBs spilled and the spill location. The most important aspects of the consensus proposal which were adopted in the policy are:

1. National cleanup standards for the majority of PCB spills;

2. Less stringent soil cleanup standards for spills in most electrical substations;

3. Visible trace cleanup of soils and double washing of solid surfaces for contaminated oil spills; and

4. Avoidance of penalties for improper disposal, if there is a good faith compliance with the cleanup requirements.

Importantly, the U.S. EPA has retained the flexibility to allow less stringent or alternative decontamination standards based upon site-specific considerations. The scope of the policy covers most "new spills" of PCB fluids containing 50 ppm and above. "Old spills" are not covered by the policy but will be considered by the U.S. EPA regions on a site-by-site basis. "New" standards are useful as a guide for determining cleanup level targets for "old" PCB spills.

2.5.2 Cleanup Performance Standards for New PCB Spills

- Transformer Oil - PCB mixtures fall into three categories, depending on concentration e.g., (1) mixtures containing less than 50 ppm PCBs are considered as non-PCB; (2) mixtures containing more than 50 ppm but less than 500 ppm PCBs are considered as PCB-contaminated; and (3) mixtures containing more than 500 ppm PCBs are considered as concentrated PCBs.

- Solid Surfaces at Outdoor Electrical Substations - PCB cleanup standard is 100 $\mu g/100\ cm^2$.

- Soil at Outdoor Electrical Substations - PCB cleanup standard is 25 ppm or 50 ppm plus attached notice.

- Damaged or Failed PCB or PCB-Contaminated Capacitors - PCB cleanup standard is 100 $g/100\ cm^2$ for solid surfaces and 50 ppm for soils.

2.5.3 Recommended Cleanup Procedures for PCB-Contaminated Materials

- Transformers - Transformers should be righted in their normal operating position, drained, and flushed with solvent equivalent to 30 percent of the total reservoir capacity.

- Soils - Normally, contaminated soil is removed to a minimum depth of 4 inches. If there is still visual evidence of contamination in the soil, continue to remove soil until there is no visual evidence of contamination. The judgment of the cleanup crew foreman is important in deciding how much soil to remove.

- Vegetation - Remove all brush and ground cover which are visibly contaminated. Examine the soil underneath the vegetation. If the soil is visibly contaminated, then remove it and dispose, as suggested for soil.

- Concrete/Asphalt - All free-flowing material should be contained and removed with oil absorptive compound such as Vermiculite or Oil Soak. The surface should then be scrubbed with Penetone, using brooms or rags. (Use protective gloves.) Vermiculite or Oil Soak should then be placed on the surface to absorb any remaining moisture. Remove absorbent material from surface. NEVER hose down PCBs with water. Asphalt may require removal.

- Capacitors/Ballasts - Wipe metal surfaces clean with dry rags. (Use protective gloves.)

- Response Vehicles - Wipe painted surfaces clean with dry rags. (Use protective gloves.) If the painted surface is dusty or dirty, it will be necessary to wipe the surface with rages soaked in Penetone. The surface should be wiped dry immediately to prevent damage to the paint.

- Structures - Buildings, retaining walls, signs, etc., that are contaminated should be scrubbed with Penetone and brushes, then wiped dry with clean rags. (Use protective gloves.)

- Spills to Streams, Rivers, Lakes or Ponds during Transport - Notify the Coast Guard at 1-800-424-8802. PCBs sink in water and will move to the lowest point.

- Spills to Highways/Roads during Transport - Contain the material and contact local authorities.

2.5.3.1 Safety Provisions for Handling PCB-Contaminated Materials

- General Precautions:

  - All nonessential personnel should leave area of PCB spill or leak.

  - Only personnel trained in the emergency procedures and protected against the hazards should be involved in cleanup operations or leak repair.

  - A "step off" area should be set up with sheet plastic for personnel leaving the contaminant area. All protective clothing and equipment should be left at this site during the cleanup to prevent potential spread of contamination. All equipment should be decontaminated or properly discarded at job completion.

  - Personnel should thoroughly wash skin areas of hands, arms and face following removal of protective equipment.

  - Warning placards should be affixed in readily visible locations in or near PCB work areas. The information contained thereon should identify the area as a PCB work area with access restrictions and first aid/emergency action guidelines.

  - A copy of a health and safety plan and spill contingency plan should be on location.

- Personal Protection:

  - Avoid contact of liquid PCBs or PCB-contaminated materials with eyes, skin and clothing. Avoid inhalation of vapors.

- Wear chemical safety goggles or safety glasses in combination with a face shield during any operation in which liquid PCBs are handled.

- Wear a respirator with an acid-gas/organic-vapor cartridge protected by a high-efficiency particulate pre-filter during any operation in which liquid PCBs or PCB-contaminated dust is handled.

- Protective clothing should be selected which will most effectively prevent skin contact with PCBs when and where it is most likely to occur. Polyvinyl alcohol and polyethylene products provide the best protection.

- Personal hygiene is a must for preventing ingestion of PCB or PCB-contaminated materials. Wash hands thoroughly before eating, drinking, smoking, or using toilet facilities.

• First Aid:

- If eyes are contacted by liquid PCBs or PCB-contaminated materials, irrigate eyes immediately with clear, clean water for 15 minutes and consult a physician.

- If vapors or dust are inhaled, leave area of exposure immediately to fresh air and consult a physician.

- If liquid PCBs or PCB-contaminated material is ingested, clear the mouth and rinse several times with clear water or non-alcoholic beverage. Consult a physician immediately. If directed to induce vomiting by the physician, be aware of potential for aspiration.

- If body is contacted by liquid PCB or PCB-contaminated materials, remove contaminated clothing and wash any skin exposures with liquid soap and clean, clear water.

- If exposed to burning PCBs, seek fresh air and medical attention. Advise medical personnel of possible exposure to PCB combustion products which may include the following:

Carbon monoxide	0.3%
Carbon dioxide	0.3%
Oxygen	0.6%
Inert gases	1.5%
Hydrogen chloride	97.3%

Incomplete combustion products may include polychlorinated dibenzofurans. Notification of a PCB fire to the Regional Office of U.S. EPA is required after the incident is stabilized.

2.5.3.2 Training

All site operations personnel should be trained in PCB removal procedures. They should be familiar with the site-specific Safety Plan and Emergency Contingency Plan. All drivers should be thoroughly knowledgeable about PCB article transportation rules, safety and spill contaminant procedures. Training should include record provisions and communication requirements of the job.

2.5.3.3 General Equipment Requirements for PCB Cleanups

- Disposal Drums
  - Liquids (55-gallon capacity, Type 17E)
  - Solids (55-gallon capacity, Types 17H or 17C)

- Protective Clothing
  - Disposable non-absorbent coveralls, rainsuit (polyethylene)
  - Disposable non-absorbent shoe covers
  - Boots -- non-porous
  - Gloves (PVA)
  - Face shield
  - Safety glasses
  - Full-face respirator with acid gas organic vapor cartridge
  - Self-contained breathing apparatus with full-face piece in pressure demand or other positive pressure mode

- Equipment and materials
  - Cleanup materials (soap, GoJo, towels)
  - Vegetable oil, eye wash and cold cream

- Rags, absorbent material (oil dry, Vermiculite)
- Plastic sheeting
- PCB solvent (kerosene - Penetone)
- "No Smoking" signs
- Electric pump and equipment
- Tools (shovels, saws, picks, axe)
- Sample containers
- Conwed blankets
- Rope
- Fiberperl

2.5.4 Post-Cleanup Sampling

The policy requires a statistically valid, reproducible, sampling methodology to verify the achievement of the cleanup performance standards for all high concentration PCB spills and those low concentration spills involving 1 pound or more of PCBs by weight. This sampling should be performed by parties other than the cleanup contractors. The sampling scheme may consist of either random or grid samples. However, the sampling area must be the largest of either:

1. An area equal to the area cleaned plus an additional 1-ft boundary; or
2. An area 20 percent larger than the original spill boundary.

The number of samples collected can be as little as three or as many as 40; however,

1. A sufficient number must be taken to ensure that areas of contamination of at least 2 ft radius within the sampling area will be detected.

2. The sampling scheme must ensure 95-percent confidence against false positives and include a calculation for expected variability due to analytical error.

EPA recommends using the sampling scheme developed by the Midwest Research Institute (MRI) entitled, "Verification of PCB Spill Cleanup by Sampling and

Analysis." The MRI guidance document for the use of this report is entitled, "Field Manual for Grid Sampling of PCB Spill Sites to Verify Cleanup." Both of these documents may be obtained from the U.S. EPA Office of Toxic Substances (202/554-1404).

2.5.5 Record-Keeping Requirements

EPA requires that all spill cleanups be fully documented and that the responsible party certify the required site decontamination. The records and documentation must consist of the following information:

- Identification of spill source (equipment)
- Estimated or actual date and time of spill
- Actual date and time of cleanup completion
- Description of spill location and nature
- Pre-cleanup sampling data
- Description of solid surface cleaning
- Approximate depth and amount of soil removed
- Post-cleanup verification sampling data and methodology
- Signed certification statement
- Estimated cost of spill cleanup (optional)

All spill records, documentation and pertinent data must be retained for at least 5 years and be made available to EPA upon request. This requirement will most easily be achieved by using a standard PCB spill cleanup report form.

2.5.6 Disposal of PCB-Contaminated Materials

Once the transformers are drained and flushed, they may be disposed of at a permitted landfill. Rinsate from the flushing operation must be incinerated. Soil and other contaminated materials with less than 500 ppm of PCBs may be landfilled. Any soils or other materials with 500 ppm or greater PCBs must be incinerated.

The three closest landfills permitted to dispose of the transformers and other materials containing less than 500 ppm of PCBs are the U.S. Ecology landfill at Beatty, Nevada; the Chemical Waste Management landfill at Emella, Alabama; and the USPCI landfill at Clive, Utah.

The closest facility (and the only facility in Texas) permitted to incinerate the rinsate and any materials containing 500 ppm or greater of PCBs is Rollins Environmental Services of Deer Park.

2.5.7 Cost Estimate for Cleanup and Disposal of PCB-Contaminated Materials

The following cost estimates have been provided by Rollins Environmental Services (FS), an affiliate of Rollins Environmental Services which performs cleanup and disposal services. These estimates are based on unit rates for cleanup services (Appendix B), information provided by WCC, and the experience of Rollins on other PCB cleanups. They are intended only to provide USFWS with approximations of potential costs. Any definitive cost estimates would necessitate site inspections by cleanup contractors.

Two estimates have been provided. One estimate assumes that contaminated soils and other materials contain less than 500 ppm PCBs and, thus, can be landfilled. The second estimate assumes that soils and other materials contain 500 ppm or greater of PCBs and, thus require incineration. In both instances, the transformers are landfilled and the rinsate is incinerated. For purposes of this estimate, the selected landfill is the U.S. Ecology facility at Beatty, Nevada. The incineration facility is the Rollins facility at Deer Park, Texas.

1. Cost estimate - less than 500 ppm PCBs

   A. Cleanup Services

Personnel	$8,969
Equipment and Supplies	6,050
Subtotal	$15,019

B. Transportation

Rinsate to Deer Park	$ 607
Transformers to Beatty	4,283
Soil to Beatty (bulk)	4,283
Subtotal	$9,173

C. Disposal

Rinsate at Deer Park	$ 8,600
Soil at Beatty	3,024
Transformers at Beatty	1,792
Subtotal	$13,416
TOTAL	**$37,608**

2. Cost estimate - 500 ppm or greater of PCBs

A. Cleanup Services

Personnel	$8,969
Equipment and Supplies	9,750
Subtotal	$18,719

B. Transportation

Rinsate to Deer Park	$ 607
Transformers to Beatty	4,283
Soil to Deer Park (55-gal drums)	1,565
Subtotal	$6,455

C. Disposal

Rinsate at Deer Park	$ 8,600
Soil at Deer Park	64,380
Transformers at Beatty	1,792
Subtotal	$74,772
TOTAL	**$99,946**

2.6 REQUIREMENTS AND RECOMMENDATIONS FOR ASBESTOS REMOVAL

2.6.1 Applicable Regulatory Agencies

The principal federal agencies overseeing the regulation of asbestos are the U.S. EPA, the Occupational Safety and Health Agency (OSHA) and the Department of Transportation (DOT).

U.S. EPA regulations focus on application and removal of asbestos-containing materials in new or remodeled buildings and the identification of friable asbestos in schools. The U.S. EPA also regulates industrial emissions of asbestos fibers and the disposal of asbestos waste. OSHA regulations address worker protection from asbestos exposure, and DOT regulations address the transportation of asbestos-containing waste materials from the point of generation to the point of treatment (vitrification) or burial in a permitted landfill.

A full assessment of a property owner's or occupant's obligations requires consideration of state and local regulations, as well as, federal ordinances. The State of Texas regulates asbestos-related renovation or demolition activities through the Texas Air Control Board (TACB). The Texas Department of Health is responsible for licensing asbestos abatement contractors and for permitting municipal landfills that accept asbestos. Following are the primary agency contacts for asbestos removal and disposal in Texas:

U.S. EPA Contact, Region VI
John West (6TPT);
Regional Asbestos Coordinator
1445 Ross Avenue
Dallas, Texas 75202
Phone: 214/655-7244

Texas Department of Health
Joel Smith, Chief
Asbestos Programs Branch
1100 West 49th Street
Austin, Texas 78756-3199
Phone: 512/458-7254

Dr. Leonard Morhmann
Solid Waste Management
1100 West 49th Street
Austin, Texas 78756-3199
Phone: (512) 458-7271

Texas Air Control Board
Mr. H. Cabrara
Asbestos Program Manager
513 E. Jackson, Room 204
Harlingen, Texas 78550
Phone: 512/425-6010

2.6.2 Federal Legislative History and Trends

Federal legislation controlling asbestos to date has been primarily directed at schools (Table 2-2). Under the Asbestos School Hazard Abatement Act of 1984, Congress authorized the EPA to spend $600 million for asbestos abatement in schools. Under the 1986 Asbestos Hazard Emergency Response Act, the EPA was directed to conduct a one-year study of asbestos problems in public and commercial buildings.

The following excerpt from "Pollution Engineering Magazine," (March 1987) provides additional support to stronger control of asbestos:

- The Occupational Health and Safety Administration has revised the asbestos standard down to 0.2 fibers/cm^3 of air and defined an action level of 0.3 fibers/cm^3 that triggers working training and medical monitoring requirements.

- A number of major insurance firms will not longer authorize loans to buildings which contain asbestos. Major tenants are unlikely to rent or renew leases in buildings where major economic liabilities are present.

- Termite certificates will need to be updated to include an asbestos inspection in future property transfers.

- Since the mid-1970s, more than 25,000 personal injury litigation cases have been initiated against miners, refiners, manufacturers and suppliers of asbestos. Several hundred thousand more cases are expected to be filed in the next 30 to 40 years.

- Asbestos property damage suits are a growing trend. Several hundred cases are pending in the courts.

The proposed laws to follow in 1989 are:

- Federal Building Asbestos Hazard Abatement Act (SB 2000) to be reintroduced to Congress by Senator Robert Stafford (R - Vermont). The bill closely resembles the Asbestos Hazard Emergency Act (PL-99-519) and has ramifications reaching far beyond schools.

- High Risk Occupational Disease Notification and Prevention Act (H.R. 162 and S. 79). Under this Act, employers could be held liable for billions of dollars in additional worker's compensation and toxic tort claims and employee medical costs.

2.6.3 Applicable Regulations, Standards and Guidelines

2.6.3.1 Federal Requirements

Applicable federal regulations which govern asbestos abatement work or hauling and disposal of asbestos waste materials include, but are not limited to, the following:

U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:

Occupational Exposure to Asbestos, Termolite, Anthophyllite, and Actinolite; Final Rules Title 29, Part 1910, Section 1001 and Part 1926, Section 58 of the Code of Federal Regulations (see Appendix C)

Respiratory Protection
Title 29, Part 1910, Section 134 of the Code of Federal Regulations

Construction Industry
Title 29, Part 1926, of the Code of Federal Regulations

Access to Employee Exposure and Medical Records
Title 29, Part 1910, Section 2 of the Code of Federal Regulations

Hazard Communication
Title 29, Part 1910, Section 1200 of the Code of Federal Regulations

Specifications for Accident Prevention Signs and Tags
Title 29, Part 1910, Section 145 of the Code of Federal Regulations
U.S. Environmental Protection Agency (EPA), including but not limited to:

Asbestos Abatement Projects Rule
40 CFR Part 762
CPTS 62044, FRL 2843-9
Federal Register, Vol 50 No 134, July 12, 1985
P28530-28540

Regulations for Asbestos
Title 40, Part 6a, Sub-part A of the Code of Federal Regulations

National Emission Standards for Asbestos
Title 40, Part 61, Sub-part M (Revised Sub-part B)
of the Code of Federal Regulations (see Appendix C)

2.6.3.2 State Requirements

Asbestos related activities in State are covered by Texas Statutes, Article 4477-3a. Regulations are located at 25TAC289.141-.156 (Appendix C). Coverage includes:

- Removal/encapsulation license registration as of 01/01/88;
- Annual renewal of license;

- TDH inspects licensee activities periodically onsite;
- Notification to TACB of intent to remove asbestos ten days prior to abatement;
- Employee must complete EPA-approved course to be registered;
- Applicant must complete EPA-approved course to be licensed;
- Project records must be maintained for 30 years; and
- Compliance with NESHAP.

2.6.3.3 Standards

Specific standards which govern asbestos abatement work or hauling and disposal of asbestos waste materials include, but are not limited to, the following:

American National Standards Institute (ANSI)
1430 Broadway
New York, NY 10018
(212) 354-3300

Fundamentals Governing the Design and Operation of Local Exhaust Systems, Publication Z9.2-79.

Practices for Respiratory Protection, Publication Z288.2-80

American Society for Testing and Materials (ASTM)
1916 Race Street
Philadelphia, PA 19103
(215) 299-5400

Specification for Encapsulants for Friable Asbestos-Containing Building Materials Proposal, P-189

Safety and Health Requirements Relating to Occupational Exposure to Asbestos, E 849-82

AFL-CIO - 1926-58: Asbestos Standard for Construction -- Building and Construction Trades Department, AFL-CIO

AWCI - Guide Specifications for the Abatement of Asbestos Release from Spray -- or Trowel Applied Materials in Buildings and Other Structural Designs

GAO/GSA - Asbestos Control Program
NBSIR 87-2688
Guidelines for Assessment and Abatement of Asbestos-Containing Material in Buildings, May 1983

U.S. Department of Commerce
National Bureau of Standards

National Engineering Lab
Center for Building Technology
U.S. Navy - NAVFAC - Section 02085, Removal and Disposal of Asbestos Materials

Veterans Administration - Section 01569, Asbestos Abatement Specifications

U.S. Postal Service - Technical Specifications for Term Construction Contract Asbestos Abatement

2.6.3.4 EPA Guidance Documents

There are several EPA documents which discuss asbestos abatement work or hauling and disposal of asbestos waste materials. Publications can be ordered from (800) 424-9065; (202) 554-1404 in Washington, D.C.:

Asbestos-Containing Materials in School Buildings - A Guidance Document. Part 1 & 2. (Orange Books) EPA C00090 (out of print)

Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book) EPA 560/5-85-024

Friable Asbestos-Containing Materials in Schools: Identification and Notification Rule (40 CFR Part 763)

Evaluation of the EPA Asbestos-in-Schools Identification and Notification Rule. EPA 560/5-84-005.

Asbestos in Buildings: National Survey of Asbestos-Containing Friable Materials. EPA 560/5-84-006.

Asbestos in Buildings. Guidance for Service and Maintenance Personnel. EPA 560/5-85-018.

Asbestos Waste Management Guidance. EPA 530-SW-85-007.

Asbestos Fact Book. EPA Office of Public Affairs.

Asbestos in Buildings. Simplified Sampling Scheme for Friable Surfacing Materials.

Commercial Laboratories with Polarized Light Microscopy Capabilities for Bulk Asbestos Identification.

A Guide to Respiratory Protection for the Asbestos Abatement Industry. EPA-560-OPTS-86-001.

2.6.4 Cleanup Performance Standard and Recommendations

Prior to demolition of a building's structure, asbestos containing materials (ACM) must be removed. ACM is any material composed to asbestos of any type and in any amount greater than 1 percent by weight, either alone or mixed with other fibrous or non-fibrous materials. The actual cleanup performance standard for these abandoned buildings scheduled for demolition is "no visible emissions" established by EPA/NESHAP. The details of "how" this is to be accomplished is determined on a case-by-case basis after a site inspection by a TACB representative.

Actual removal of the vinyl asbestos tile and mastic will probably be a very simple operation. There is good reason to believe that TACB will approve the following approach:

- Remove debris from the floor area which is not visible contaminated with asbestos fibers and discard in a local landfill determined to be permitted to receive such waste.

- Use wet methods (wetting agents, approved solvent for mastic, and encapsulating agents) for removal of asbestos-contaminated materials, and asbestos-containing materials from building surfaces.

- Wetted friable asbestos and wetted materials contaminated with friable asbestos should be bagged in 6-mil thick leak-tight plastic bags used for transporting asbestos waste to the disposal site. Each bag should be labeled as follows:

DANGER

CONTAINS ASBESTOS FIBERS

AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

- Non-friable asbestos containing materials are not covered by asbestos disposal regulations.

- TACB will ultimately determine whether or not a post-abatement clearance inspection will be required.

2.6.4.1 Personnel Protection Requirements

- Protective Clothing

  Disposable clothing, including head, foot and full body protection, must be provided in sufficient quantity and adequate sizes for all workers and authorized visitors. Hard hats, protective, gloves, rubber boots and/or other footwear must be provided as required for workers and authorized visitors. Safety shoes may be required for some activities.

- Respiratory Protection

  The minimum level of protection is determined on a case-by-case basis after the site is inspected by a TACB representative. Since vinyl asbestos tile is most often determined to be a form of encapsulated asbestos, the minimum level of respiratory protection will probably be an air-purifying respirator (half-mask and full facepiece). Respirators used shall be selected from those approved by the Mine Safety and Health Administration or the National Institute for Occupational Safety and Health for use in atmospheres containing asbestos fibers.

2.6.4.2 Personnel Training

Training must be provided (in accordance with 29 CFR 1926) by the contractor to all employees or agents who may be required to disturb asbestos-containing or asbestos-contaminated materials for abatement and auxiliary purposes and to all supervisory personnel who may be involved in planning, execution or inspection of abatement projects.

Training must provide, at a minimum, information on the following topics:

- The health hazards of asbestos including the nature of various asbestos-related diseases, routes of exposure, known dose-response relationships, the synergistic relationship between asbestos exposure and cigarette smoking, latency periods for disease and health basis for standards.

- The physical characteristics of asbestos including fiber size, aerodynamic properties, physical appearance and uses.

- Employee personnel protective equipment including the types and characteristics of respirator classes, limitations of respirators, proper selection, inspection, donning, use, maintenance and storage of respirators, field testing the facepiece-to-face seal (positive and negative pressure fitting tests), qualitative and quantitative fit testing procedures, variations between laboratory and field fit factors, factors that affect respirator fit (e.g., facial hair), selection and use of disposable clothing, use and handling of launderable clothing, non-skid shoes, gloves, eye protection and hard hats.

- Medical monitoring requirements for workers including required and recommended tests, reasons for medical monitoring and employee access to records.

- Air monitoring procedures and requirements for workers including description of equipment and procedures, reasons for monitoring, types of samples and current standards with recommended changes. Work practices for asbestos abatement including purpose, proper

construction and maintenance of air-tight plastic barriers, job set-up of airlocks, worker decontamination systems and waste transfer airlocks, posting of warning signs, engineering controls electrical and ventilation system lockout, proper working techniques, waste cleanup, storage and disposal procedures.

- Personal hygiene including entry and exit procedures for the work area, use of showers and prohibition of eating, drinking, smoking and chewing in the work area.

- Special safety hazards that may be encountered including electrical hazards, air contaminants (CO, wetting agents, encapsulants, materials from owner's operation), fire and explosion hazards, scaffold and ladder hazards, slippery surfaces, confined spaces, heat stress and noise.

- Workshops affording both supervisory personnel and abatement workers the opportunity to see (and experience) the construction of containment barriers and decontamination facilities;

- Supervisory personnel must in addition, receive training or contract specifications, liability insurance and bonding, legal considerations related to abatement, established respiratory protection medical surveillance programs, EPA, OSHA (and state) record keeping requirements, and other topics as requested by the project owner.

Training must be provided by individuals qualified by virtue of experience and education to discuss the topic areas. Training must have occurred within 12 months prior to the initiation of abatement activities. The contractor must document training by providing date of training, training entity, course outline, and names and qualifications of trainers.

2.6.4.3 Medical Monitoring

The contractor must provide medical examinations for all workers who may encounter an airborne fiber level of 0.1 f/cc or greater for an 8-hr time weighted average. In the absence of specific airborne fiber data, medical examinations must be provided for

all workers who will enter the work area for any reason. Examinations must as a minimum meet OSHA requirements as set forth in 29 CFR 1926. In addition, an evaluation must be provided of the individual's ability to work in environments capable of producing heat stress in the worker.

The following submittals must be offered to the owner and the owner's representative for review and approval:

(a) An original signed copy of the Certificate of Worker's Acknowledgement, for each worker who is to be at the job site or will enter the work area.

(b) A course outline of the worker training course. To be included is the date and time course was given, name and title of teacher, attendance sheet if available, and a letter of certificate signed and dated by the course teacher.

(c) A medical examination report for each worker who is to enter the work area. The examination must have been conducted within the last 12 months as part of compliance with OSHA medical surveillance requirements. A physician's opinion should be part of the report and address at a minimum the following issues:

- Whether the worker has any medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.

- Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.

- Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.

- Statement that worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.

(d) A certification signed by an officer of the abatement contracting firm and notarized that exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.

2.6.5 Disposal of Asbestos

- Remove sealed, cleaned and labeled bags of asbestos-containing materials from the work area and place them directly into a sealed truck or dumpster. Bagged material should not be openly stored outside the work area. Personnel loading asbestos-containing waste should be protected by disposable clothing, including head, body and foot protection and at a minimum, half-facepiece, air-purifying, dual cartridge respirators equipped with high-efficiency filters. Truck bed and sidewalls should be covered with 6-mil polyethylene to preclude contamination of vehicle.

- Disposal must occur at an authorized site in accordance with regulatory requirements of NESHAP and applicable state and local laws, ordinances, and regulations. According to information provided by the Texas Department of Health, the nearest landfills permitted to accept asbestos contaminated debris are the CNT Regional Landfill (Linn, Texas), the Brownsville Landfill, and the Starr County Landfill (Rio Grande City, Texas). The contractor must advise the sanitary landfill operator, at least 24 hours in advance of transport, of the quantity of material to be delivered. Bags, drums and components should be inspected as they are off-loaded at the disposal site. Personnel off-loading containers at the disposal site should wear protective equipment consisting of disposable head, body and foot protection and, at a minimum, half-facepiece, air-purifying, dual cartridge respirators equipped with high efficiency filters.

- All trip tickets, transportation manifests, landfill receipts, waste manifests or other documentation must be delivered to project owner.

2.6.6 Demolition of Cement Block Buildings

Demolition should only proceed after conducting the following:

- Obtain all appropriate transportation, county and local construction permits, and air permits as determined.
- Contract with a local permitted landfill to accept the volume and type of waste expected for the demolition.
- Remove all compressed-gas cylinders, containers, debris, light ballasts, equipment and fiberglass insulation.
- Inspect outside wall cores at several locations to check for asbestos fill type insulation.
- Inspect each building for lead shielding.
- Disconnect electrical and natural gas services.

If feasible, demolition should take place under fine-water spray to control dusting. Heavy equipment should not be operated under nor near overhead power lines. Trucks should be loaded properly to preclude rubble falling from moving trucks. Depressions should be filled, compacted and graded to accommodate the natural terrain. Finally, damage to roads, drainage ways, fences and gates caused by the demolition activity should be repaired.

TABLE 2-1

SUMMARY OF ANALYTICAL RESULTS

SITE 1 - FRONTON

	NORTH AMP. BLDG. & VICINITY	CENTRAL TRANSMITTER BLDG. & VICINITY								IRRIGATION DITCH	SOUTH AMP. BLDG. & VICINITY
PARAMETER	1-SS-1	1-SS-2	1-SS-3	1-SS-4	1-SS-5	1-SS-6	1-DUP-1	1-SS-7	1-SS-8	1-SS-9	1-SS-10
PCBS (mg/kg)											
AROCHLOR 1016	<3.3	<0.14	<0.15	<0.14	<28.0	<0.14	<0.14	<2.8	<0.14	<0.14	<0.69
AROCHLOR 1221	<3.3	<0.14	<0.15	<0.14	<28.0	<0.14	<0.14	<2.8	<0.14	<0.14	<0.69
AROCHLOR 1232	<3.3	<0.14	<0.15	<0.14	<28.0	<0.14	<0.14	<2.8	<0.14	<0.14	<0.69
AROCHLOR 1242	<3.3	<0.14	<0.15	<0.14	<28.0	<0.14	<0.14	<2.8	<0.14	<0.14	<0.69
AROCHLOR 1248	<3.3	<0.14	<0.15	<0.14	<28.0	<0.14	<0.14	<2.8	<0.14	<0.14	<0.69
AROCHLOR 1254	<6.5	<0.28	<0.29	<0.28	<56.0	<0.28	<0.28	<5.6	<0.28	<0.28	<1.4
AROCHLOR 1260	80.00	<0.28	2.50	0.21J	350.00	<0.28	<0.28	<5.6	0.21J	<0.28	17.00

< = Not detected. The value given is the detection limit. Detection limits for a given compound vary depending on sample matrix.

J = Detected, but below the quantification limit listed on the table.

TABLE 2-2
FEDERAL LEGISLATIVE HISTORY

1971— Occupational Safety and Health Administration (OSHA). Promulgates standards regulating occupational exposure to asbestos. 10 CFR 445 (May 29, 1971).

1972— EPA/National Emissions Standards for Hazardous Air Pollutants (NESHAP). Asbestos is listed as a hazardous air pollutant. 42 U.S.C. 7401 et seq.

1972— Occupational Safety and Health Administration (OSHA). Sets standard for occupational exposure to asbestos at 5 fibers per cubic centimeter (cc). 29 CFR 1910 et seq.

1973— EPA/NESHAP. Establishes "no visible emissions" standard for milling and manufacturing of asbestos products and demolition of buildings; prohibits spray application for mist uses of friable material containing more than one percent asbestos. 42 U.S.C. 7412.

1975— The Hazardous Materials Transportation Act (HMTA). DOT designates asbestos as a hazardous material for purposes of transportation and prescribes requirements for shipping papers, packaging, marketing, labelling, and transport vehicle placarding applicable to the shipment and transportation of asbestos materials. 49 CFR 172.101.

1976— Resource Conservation and Recovery Act (RCRA). Establishes facility siting and operation requirements on solid waste disposal facilities, including facilities which handle asbestos wastes. 40 CFR Part 257, Subtitle D.

1976— OSHA. Lowers standard for asbestos exposure to 2 f/cc, establishes mandatory requirements for asbestos abatement works regarding respiratory and protective equipment, training programs and medical examinations. 29 CFR 1910 et. seq.

1977— Clean Water Act Sec. 402 (a)(1) National Pollution Discharge Elimination Systems (NPDES). Sets specific effluent limitations for discharges of asbestos fibers into navigable waters. 40 CFR Part 427.

TABLE 2-2 (CONT'D)

1978— EPA/NESHAP. Extends prohibition on all uses of friable, spray-on material included under the no visible emissions standard to cover all asbestos materials during demolitions. 40 CFR Part 61, Subpart M.

1980— U.S. Department of Education. Under the Asbestos School Hazard Detection and Control Act, proposes a rule to establish a grant and loan program to reimburse school for detecting and controlling asbestos in schools.

1980— The Comprehensive Environmental Response. Compensation and Liability Act (CERCLA). The EPA listed asbestos as a hazardous substance covered by CERCLA. 40 CFR 302.4.

1982— Toxic Substances Control Act (TSCA). Sets final rule for identification and notification of asbestos in schools. 40 CFR Part 763, Subpart F.

1983— National Asbestos Council formed.

1984— Asbestos School Hazard Abatement Act. Established loan and grant programs to assist primary and secondary schools, both public and private, in conducting asbestos abatement; authorizes EPA to spend $600 million over a seven-year period. 40 CFR Part 763.

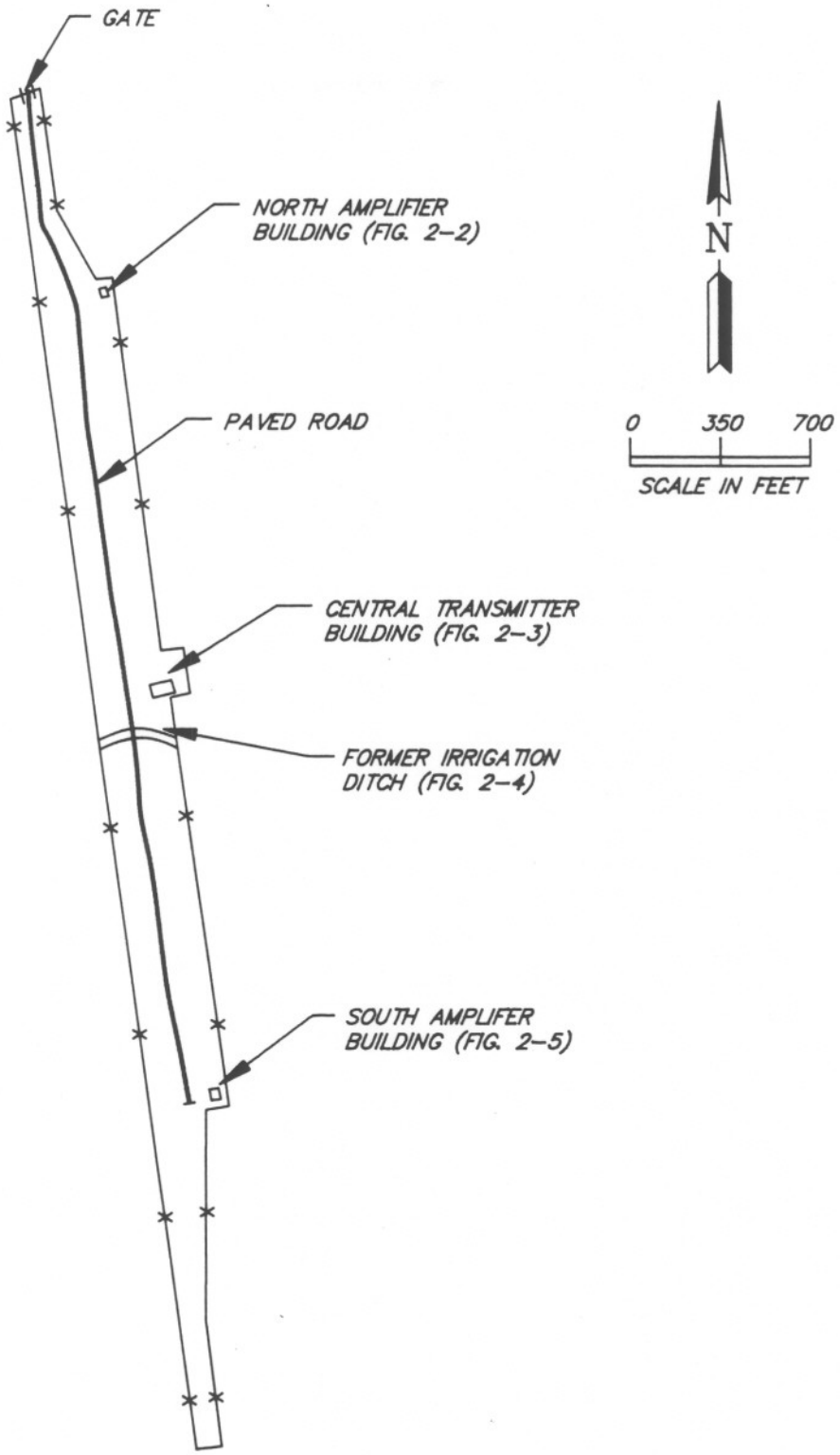
1986— OSHA Upgrade of Asbestos Exposure in the Network Place. Reduces exposure to the worker in "emergency" standard from 0.5 f/cc to 0.2 f/cc, and "short term" standard from 2 f/cc to 0.5 f/cc.

1986— Asbestos Hazard Emergency Response Act (AHERA). Mandates that schools inspect their buildings for asbestos and prepare plans for asbestos abatement; requires that schools only hire EPA-accredited or state-certified asbestos inspectors, contractors and laboratories; directs EPA to conduct a one-year study of asbestos problems in public and commerical buildings and recommend whether school regulations should be expanded to cover all public and commercial buildings. Publ. L. No. 99-519, 100 Stat. 2970.

1986— The Emergency Planning and Community Right-to-Know Act. Pertains to hazardous materials planning and community right-to-know.

1002.51F

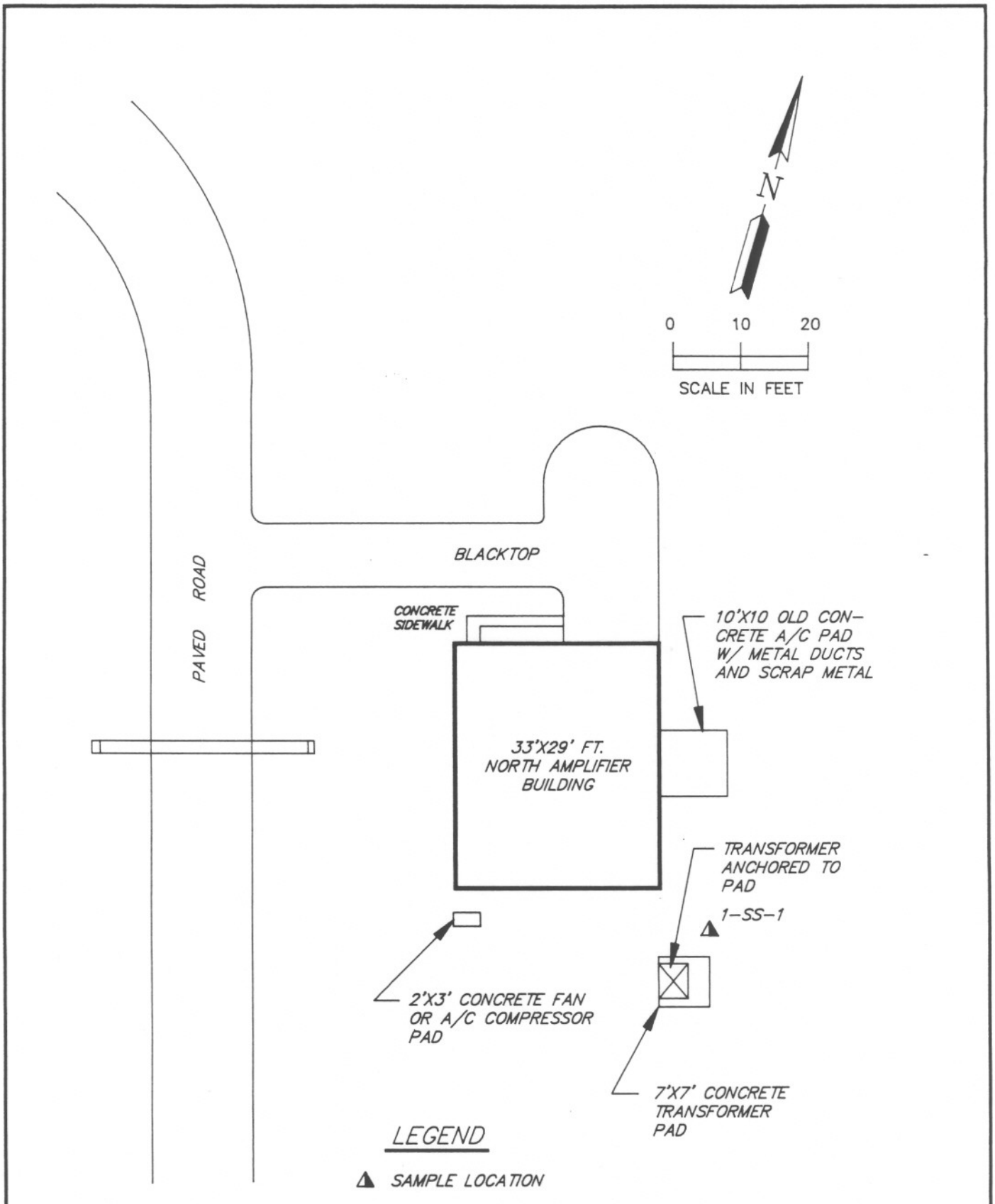
88104201



NAME CONTAMINANTS ASSESSMENT	Woodward-Clyde Consultants		GENERAL MAP OF SITE (FRONTON)	FILE No. 88H1042C
FOR U.S. FISH & WILDELIFE SERVICE	SCALE NOTED	MADE BY: R.W.S. DATE: 11/11/88 CHECKED BY: DATE:		FIGURE 2-1

003.gif

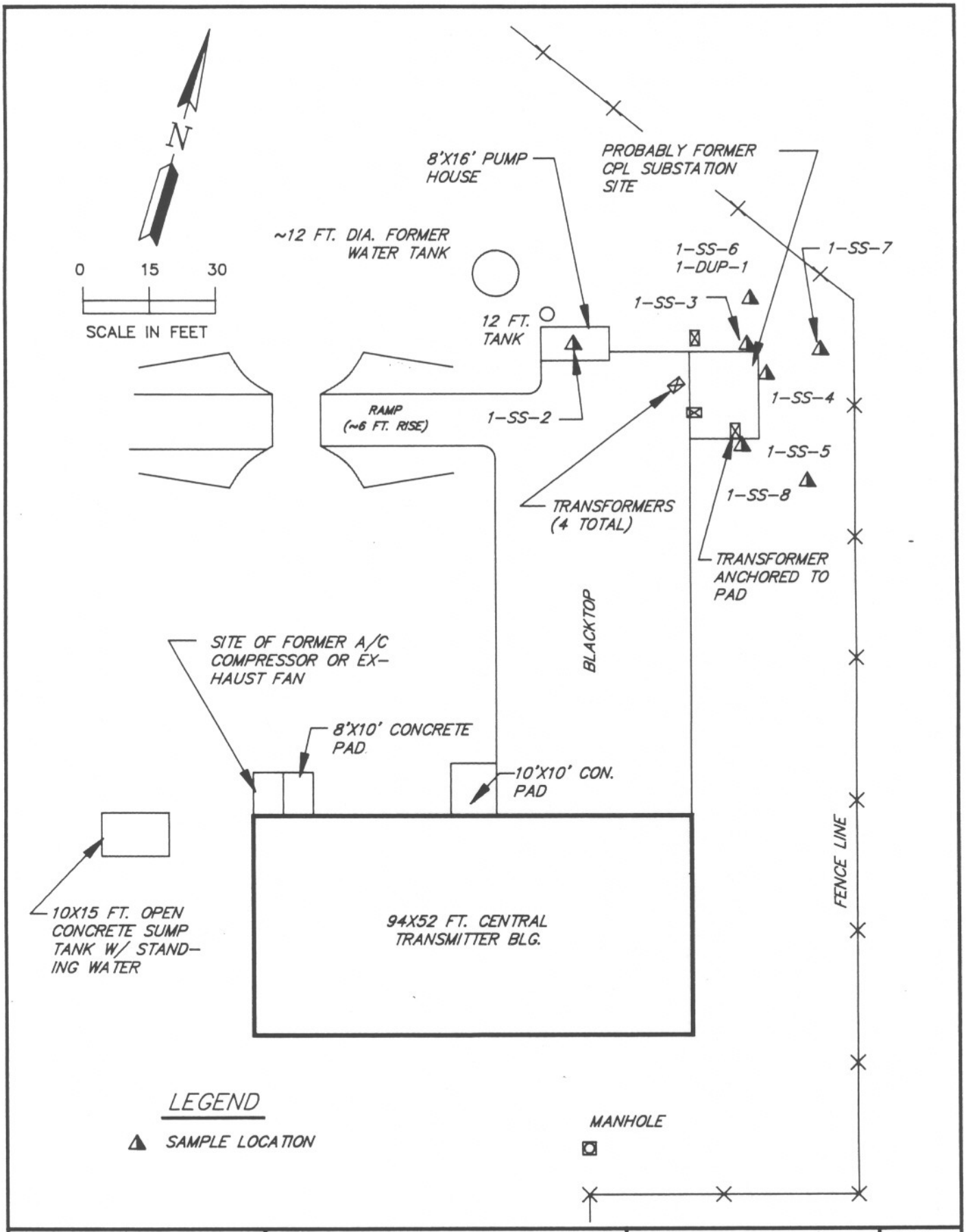
88104202



NAME CONTAMINANTS ASSESSMENT	Woodward-Clyde Consultants		NORTH AMPLIFIER BLDG. AND VICINITY	FILE No. 88H1042C
FOR U.S. FISH & WILDLIFE SERVICE	SCALE NOTED	MADE BY: P.R. DATE: 11/11/88 CHECKED BY: DATE:		FIGURE 2-2

004.9iF

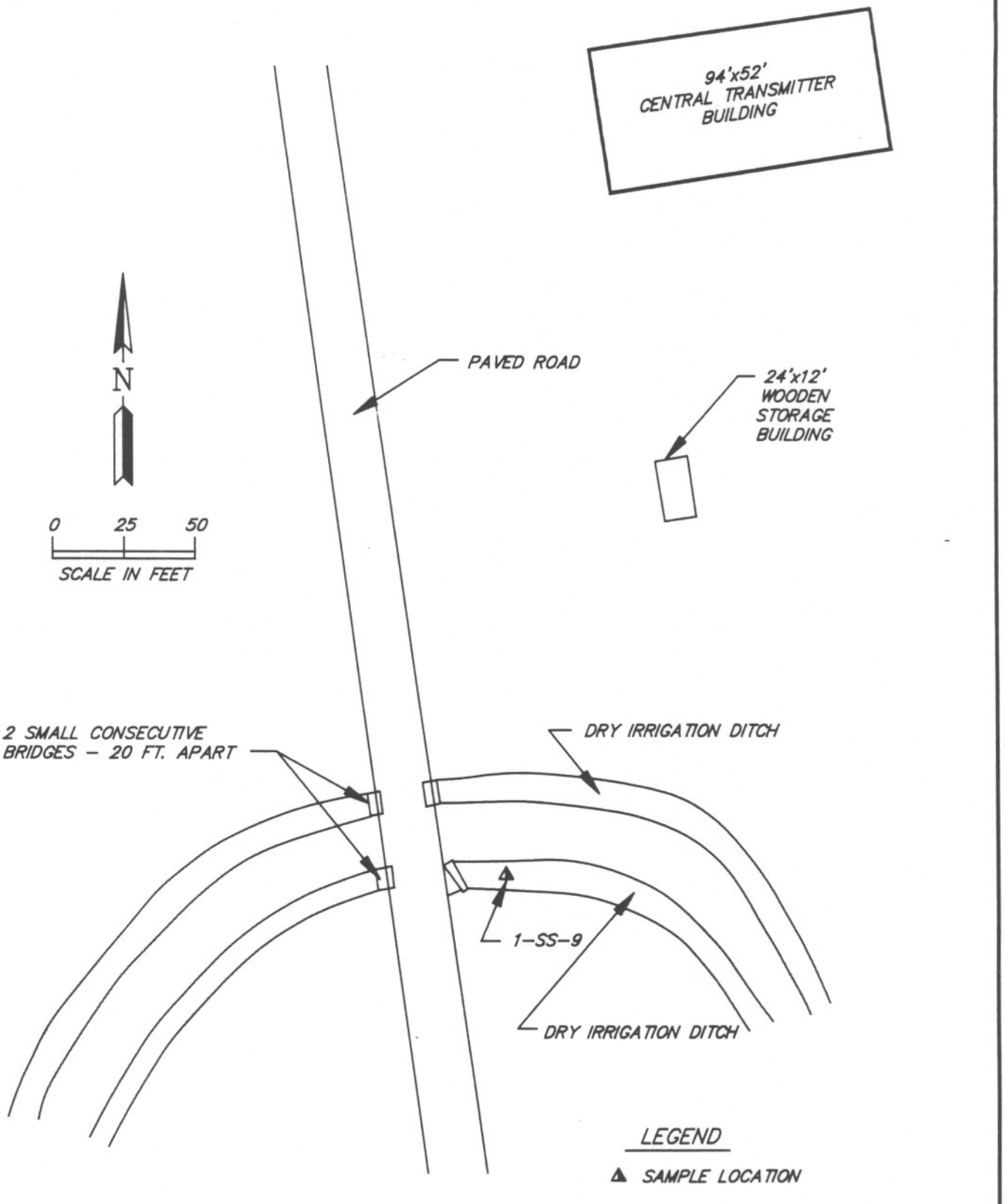
88104203



NAME CONTAMINANTS ASSESSMENT	Woodward-Clyde Consultants		CENTRAL TRANSMITTER BLDG. AND VICINITY	FILE No. 88H1042C
FOR U.S. FISH & WILDLIFE SERVICE	SCALE NOTED	MADE BY: P.R. DATE: 11/11/88 CHECKED BY: DATE:		FIGURE 2-3

005.gif

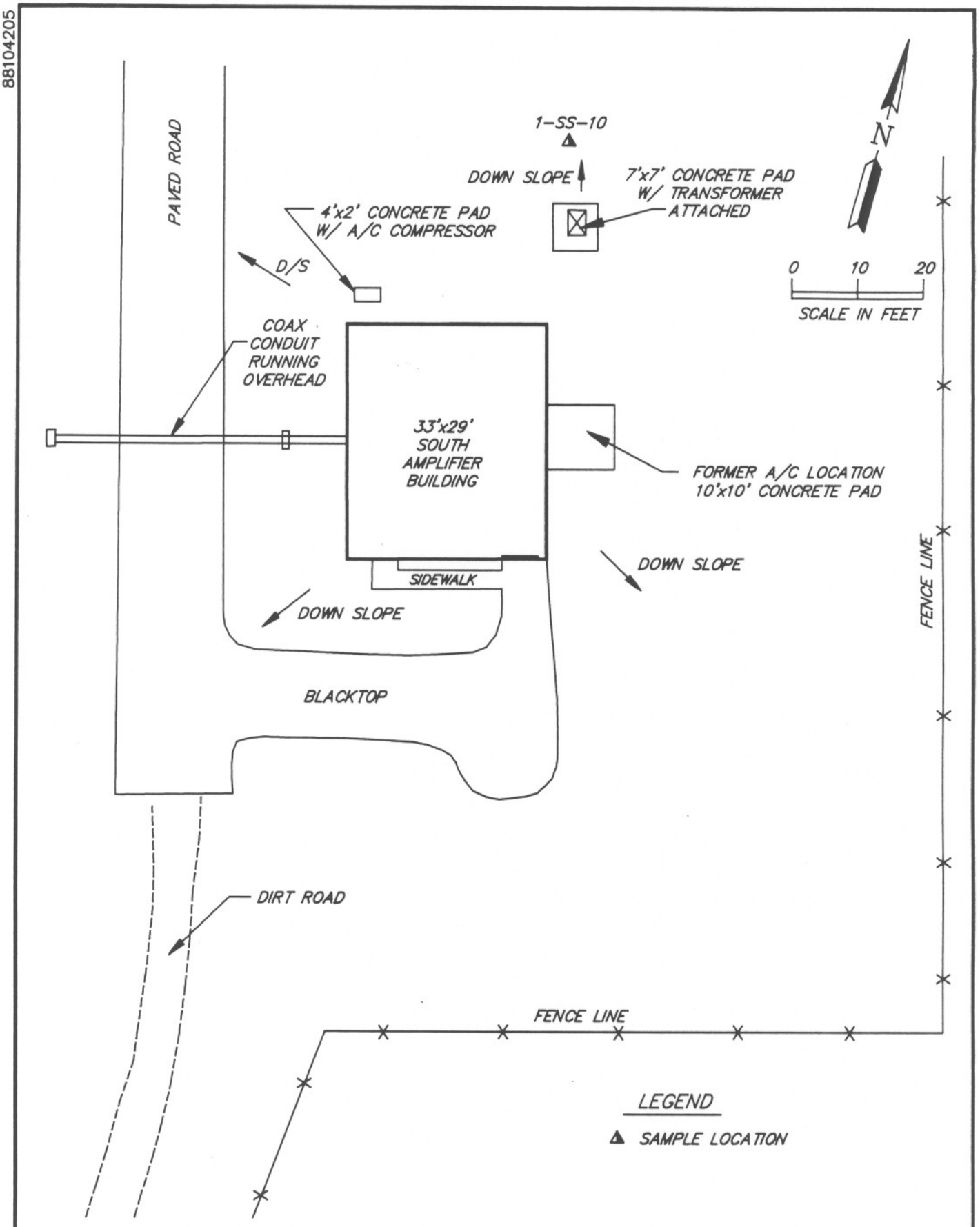
88104204



NAME CONTAMINANTS ASSESSMENT	Woodward-Clyde Consultants		CENTRAL IRRIGATION DITCH AND VICINITY	FILE No. 88H1042C
FOR U.S. FISH & WILDELIFE SERVICE	SCALE NOTED	MADE BY: R.W.S. DATE: 11/11/88 CHECKED BY: DATE:		FIGURE 2-4

006.gif

88104205



NAME CONTAMINANTS ASSESSMENT	Woodward-Clyde Consultants		SOUTH AMPLIFIER BLDG. AND VICINITY	FILE No. 88H1042C
FOR U.S. FISH & WILDELIFE SERVICE	SCALE NOTED	MADE BY: R.W.S. DATE: 11/11/88 CHECKED BY: DATE:		FIGURE 2-5

3.1 SITE LOCATION AND DESCRIPTION

The Garza tract is located in Starr County, Texas via Highway 83 and Farm Road 2360. The site lies 6 miles east of Garcias. Access to the site is provided by a gravel county road. From the gate at the northwest corner, a narrow, dirt road runs south along the western boundary of the site.

The site of approximately 3 acres is roughly rectangular-shaped, with the length running approximately east-west (Figure 3-1). The north and south boundaries are lined with east-west trending grassy mounds of sandy fill approximately 8 to 10 ft high and up to 260 ft in length. Between the two mounds of fill is a low lying, uneven area covered by dense weeds 3 to 4 ft in height. A 3-ft deep drainage ditch follows the road along the west end of the site. South of the site lies a crop duster base with an east-west trending airstrip. At the west end of the strip is a chemical storage tank where chemicals are apparently mixed for crop dusting activities.

3.2 SITE HISTORY

The Garza tract is the site of a former unregulated municipal landfill. The major portion of the landfill is probably located between the two mounds of fill. These mounds are probably comprised of excavated material from a landfill pit or trench located between them. Material was probably used from these mounds to bury the refuse.

3.3 FIELD INVESTIGATIONS

Field investigations at Site 2 consisted of soil borings, soil boring samples, and a brief site reconnaissance.

3.3.1 Soil Borings

A total of six boreholes were drilled using an Ardco top head drive drilling rig. The rig was mounted on a 4 x 4 all-terrain diesel powered carrier. A dry auger drilling method was employed using a 4-inch diameter solid stem auger bit. All soil samples from the boreholes were collected using either a 2.5-inch diameter by 3-ft long Shelby tube or a 2.5-ft split-spoon sampler. The drilling rig was used to push the split-spoon sampler. Drill cuttings were discharged onto the ground surface. No drilling fluids were generated with this drilling method. Upon completion of drilling and sampling, boreholes were backfilled with original materials (cuttings) or a cement grout. Boreholes backfilled with original materials were plugged at a 2-ft depth using a 5-inch flanged PVC plug and grouted to the ground surface.

All sampling equipment was decontaminated prior to sampling. Shelby tubes and split-spoon samplers were scrubbed with an Alconox detergent solution and rinsed with distilled water. Decontaminated tubes and samplers were wrapped in aluminum foil until their use.

All soil borings were located within the limits of the landfill as defined by the USFWS representative. Boreholes SB-1, SB-2 and SB-3 were located along the southern boundary of the landfill. Borehole SB-4 was located at the landfill's northern boundary. Boreholes SB-5 and SB-5A (redrill) were located within the approximate center of the landfill.

The scope of services specified that soil samples were to be collected at 5, 15 and 25 ft below ground surface. In addition, soil borings were to be terminated at a maximum depth of 25 ft below ground surface or upon encountering the water table or a clay layer. The actual depth-to-water table and the depth-to-clay varied across the site. Therefore, the sampling interval was adjusted to facilitate the collection of three samples from each borehole. Boring logs showing the lithology, total depth, depth-to-water, and sampling intervals for each borehole are presented on Figures 3-2 through 3-7.

The first borehole (SB-1) was located at the west end of the south mound. Because this was the first hole drilled, SB-1 was advanced to the maximum depth of 25 ft in order to gain knowledge of site conditions. The water table was encountered at 17 ft. The sampling intervals were 3 to 5 ft (sample 2-SB-1A), 13 to 15 ft (samples 2-SB-1B and 2-DUP-1) and 23 to 25 ft (sample 2-SB-1C). The borehole cuttings, from 0 to 13 ft, contained dark brown clay with various physical debris, including broken glass and wood. At 13 ft, a layer of red silty clay was encountered extending approximately 1.5 ft in thickness. A light brown silty sand was found at approximately 14.5 ft terminating at 24 ft into a water-bearing sand and gravel lense. Samples obtained from borehole SB-1 contained no visible contamination or odor. Because the borehole was advanced well beyond the water table, a cement grout mix was used to backfill and seal the borehole and prevent migration of any surface contamination into the aquifer.

The second borehole (SB-2) was located north of the east end of the southern mound. SB-2 was advanced to a total depth of 15 ft. The water table was encountered at 13 ft. Samples were collected at depths of 3 to 5 ft (sample 2-SB-2A), 8 to 10 ft (sample 2-SB-2B), and 13 to 15 ft (sample 2-SB-2C). The samples and cuttings contained a tan clayey sand without the physical debris seen in borehole SB-1. The sand became silty and less clayey with depth. At 13 ft, the cuttings became saturated. The samples collected from SB-2 contained no visible contamination or odor. Upon completion of drilling activities, SB-2 was backfilled with original material to a depth of 2 ft. At 2 ft, a 5-inch flanged PVC plug was placed downhole and the remaining 2 ft was backfilled with dry cement grout.

The third borehole (SB-3) was located at the southeast boundary of the site. SB-3 was advanced to a total depth of 13 ft. The water table was encountered at 9 ft. Samples were collected at depths of 3 to 5 ft (samples 2-SB-3A and 2-DUP-2), 8 to 10 ft (sample 2-SB-3B) and 11 to 13 ft (sample 2-SB-3C). Samples and cuttings contained tan clayey sand becoming silty sand at 6 ft to depth. No physical debris was encountered in cuttings or samples. Samples contained no visible contamination or odor. Upon completion of drilling activities, SB-3 was backfilled with original material to a depth of 2 ft. At 2 ft, a 5-inch flanged PVC hole plug was placed downhole. A dry cement grout was placed from 2 ft to the ground surface.

The fourth borehole (SB-4) was located just south of the east end of the north mound. Borehole B-4 was terminated at 20 ft, into a water-bearing sand. Samples were collected at depths of 2 to 4 ft (sample 2-SB-4A), 6 to 8 ft (sample 2-SB-4B) and 15 to 17 ft (sample 2-SB-4C). At the surface, cuttings were a tan silty sand becoming a sandy silt at 5 ft and a clayey silt at 11 ft. At 17 ft, the soil becomes a hard tan silty clay, terminating at 19.5 ft into a water-bearing silty sand. No physical debris was contained in the samples or cuttings. In addition, no visible contamination or odor was apparent. Upon completion of drilling activities, the borehole was backfilled the same manner as SB-2 and SB-3.

The fifth and final borehole (SB-5) was located in the approximate center of the landfill. This borehole was advanced to a total depth of 13 ft. Samples were collected at depths of 3 to 5 ft (sample 2-SB-5A) and 8 to 10 ft (sample 2-SB-5B). SB-5 contained glass and other assorted debris including metal cans, brick fragments, leather, wire and foil. Because of the amount of debris and loose nature of the sand, the borehole collapsed to a depth of 6 ft while attempting to collect the 13- to 15-ft soil sample. Despite numerous attempts to re-open the borehole and collect a 13- to 15-ft sample, the hole remained closed. The borehole was finally backfilled, plugged and grouted. A second hole (SB-5A) was drilled 4 ft east of SB-5 in an attempt to collect a 13- to 15-ft soil sample. Similar soil conditions at borehole B-5A caused the borehole to collapse to 8 ft. The borehole was backfilled, plugged and grouted. The drill cuttings and samples had a damp, musty odors.

A total of 16 soil samples were collected from Site 2 soil borings, including the two sample splits (duplicates).

3.3.2 Site Reconnaissance

A brief reconnaissance of the Site 2 landfill was performed by WCC field personnel. Dense vegetation covering most of the site prevented any detailed observation. From what could be observed, the area between the two grassy mounds contained abundant glass, metal, and general landfill debris. No chemical containers were observed within the landfill boundaries at the time of the site visit.

3.4 ANALYTICAL RESULTS

3.4.1 Sample Analyses and Results

Because of the unknown nature of potential contaminants at this municipal garbage dump site, the samples collected from the test holes were analyzed for hazardous substance list (HSL) compounds. The compounds analyzed include volatile organics (EPA Method SW846-8240), semi-volatile organic compounds (EPA Method SW846-8270) and metals. The metals were analyzed using inductively-coupled argon plasma (EPA Method SW846-6010) for aluminum, antimony, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, magnesium, manganese, nickel, potassium, silver, sodium, vanadium and zinc, and graphite-furnace atomic absorption for arsenic, lead, selenium and thallium. Cold-vapor atomic absorption methodologies for mercury were also those prescribed in EPA's SW-846 procedures (Method 7470). Pesticides were also tested for as part of the semivolatile analyses (SW846-8270) and since they were not present above instrumental detection limits, they were not further tested using gas chromatographic methodologies.

The chemical data for the analytes detected are summarized in Table 3-1. Among the volatile organic compounds, methylene chloride and acetone are the only two compounds that are present above detection limits in most of the samples. However, these compounds are common laboratory solvents, and their presence in the samples is probably due to contamination at the laboratory. Other compounds, benzene, toluene, 4-methyl 2-pentanone and 2-butanone, are present in low levels in one or two samples only. Their estimated levels are quite low and they do not show any pattern in their distribution. Therefore, detection of these volatile compounds does not appear to be significant.

The semivolatile compounds also do not appear to be widespread based on sample results. The two phthalate compounds (bis (2-ethylhexyl)-phthalate and di-n-octyl phthalate) are compounds commonly used as plasticizers, so that their presence is ubiquitous in the environment. Other compounds reported, benzoic acid, n-nitro-

phenylamine, phenanthrene, pyrene, and fluoranthene, are all present at low levels, well below the practical quantitation limits.

The metals are generally present at measurable levels in the soil, with the common metals such as calcium, aluminum, and iron present at percent levels. The levels of the metals typically found in natural soils are provided in Table 3-2. It is obvious that all of the metals reported in samples from the Garza site (Table 3-1) are within the range of values common for natural soil.

Therefore, it appears that both inorganics and organics are not unusually elevated at this landfill site. This could be because the materials dumped were primarily metal cans, glass bottles, etc., and not chemical wastes.

3.4.2 Laboratory QA/QC

Keystone Environmental Resources laboratory followed all QA/QC procedures specified in EPA's laboratory contracts. Some of the procedures are highlighted below.

- Holding Times - All analyses and extractions (and digestions for metals) were performed within the EPA's limits for that analysis procedure.

- Surrogate Recoveries - Surrogates are isotopically labelled and environmentally rare compounds that were spiked into samples prior to analyses. Their recoveries were all within prescribed recovery limits.

- Matrix Spike Recoveries - All compounds that were spiked and analyzed were within the recovery limits except n-nitroso di-n-propylamine. However, since this compound was not detected in any of the samples, its recovery is not of any significance.

- Duplicate Analyses - All matrix spike samples were analyzed in duplicate and the precision of analyses were within acceptable limits.

- Duplicate Analyses - All matrix spike samples were analyzed in duplicate and the precision of analyses were within acceptable limits.

- Calibration and tuning data for the organics analyzed suggest that the instruments were operating under prescribed instrumental conditions.

3.4.3 Field QA/QC

As described in Section 3.3.1, two samples were collected in duplicate: 2-SB-1B (DUP-1) and 2-SB-3A (DUP-2). The metals data for the duplicate samples are summarized in Table 3-3. Relative percent differences were calculated by the equation

$$RPD(\%) = \frac{|D_1 - D_2|}{(D_1 + D_2)/2} \times 100$$

where,

D_1 and D_2 = are the two duplicate results.

RPD is a measure of the laboratory precision and the homogeneity of the soil. Since the laboratory precision was found to be good based on the matrix spikes and matrix spike duplicates, the RPDs between the field duplicates are primarily a measure of field duplication measures and the soil homogeneity. Since the RPDs are in general low (Table 3-3), except arsenic, it appears that the soil is fairly homogeneous within short distances (inches).

3.5 RECOMMENDATIONS

Investigation activities at the Garza tract unregulated municipal landfill concentrated on sampling for chemical constituents in the subsurface soils. Sampling activities included collection of soil samples above and below the observed groundwater levels. As previously indicated, 14 samples, from this site, were collected and tested. Four of these samples were collected from below the observed groundwater level. The data presented in Table 3-1 does not appear to present an identifiable trend with respect to sample location and observed volatile organic chemical contaminant concentration.

In order to provide a more definitive answer regarding the distribution of possible contaminated groundwater, USFWS may wish to consider installing at least two groundwater monitoring wells at this site. One well should be located hydraulically upgradient and one well downgradient. Each well should be located approximately 10 to 20 ft away from the limits of the waste and screened in the first water-bearing layer beneath the ground surface. We recommend that a Phase II work plan be developed for installation of monitoring wells and for a groundwater sampling and testing plan.

We also recommend a cover be placed over the limits of the sanitary waste to facilitate runoff and reduce infiltration into the waste; thereby reducing the potential for leachate generation. We recommend this cover consist of the following materials (from the bottom up):

- Two (2) ft of compacted clay;
- Eighteen (18) inches of free draining topsoil; and
- Native grass cover.

The compacted clay should be sloped at 2 to 5 percent to accommodate potential settlement. We recommend the fill material consist of CL or CH clay, as defined by the Unified Soil Classification System. The fill should be placed in uniform lifts and compacted to 95 percent of maximum Standard Proctor density at or above the optimum moisture content, as defined by that test. While the design of a closure system is outside the scope of services for this contract, WCC could provide this service if authorized.

TABLE 3-1
SUMMARY OF ANALYTICAL RESULTS
SITE 2 - GARZA

PARAMETER	2-SB-1A	2-SB-1B	2-DUP-1	2-SB-1C	2-SB-2A	2-SB-2B	2-SB-2C	2-SB-3A	2-DUP-2	2-SB-3B	2-SB-3C	2-SB-4A	2-SB-4B	2-SB-4C	2-SB-5A	2-SB-5B
VOLATILE ORGANIC COMPOUNDS (uG/KG)																
METHYLENE CHLORIDE	33	25	13	27	13	14	13	9	4J	12	12	24	27	18	25	28
ACETONE	52	16	20	17	13	-	12	-	61	670	33	12	10J	11J	82	210
2-BUTANONE	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-
4-METHYL-2-PENTANONE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3J	-
TOLUENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3J	3J
BENZENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
SEMIVOLATILE ORGANIC COMPOUNDS (uG/KG)																
BIS(2-ETHYLHEXYL)PHTHALATE	410	-	-	270J	85J	1200	-	140J	160J	130J	830	-	400	180J	360J	22,000
BENZOIC ACID	-	-	-	-	94J	140J	-	-	-	-	-	-	-	-	-	-
DI-N-OCTYL-PHTHALATE	-	-	-	-	-	-	-	130J	130J	-	-	-	-	-	-	-
N-NITROSODIPHENYLAMINE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170J	-
PHENANTHRENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180J	1600J
PYRENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110J	750J
FLUORANTHENE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	530J
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	630J
PESTICIDES/PCBS (uG/KG)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
METALS (MG/KG)																
ARSENIC	5.58	5.46	16.70	1.19	4.24	2.87	1.55	2.76	3.75	3.48	1.64	2.68	3.39	5.91	5.92	4.48
MERCURY	<0.12	<0.12	<0.13	2.13	<0.11	<0.11	<0.13	<0.11	<0.11	<0.12	<0.12	<0.12	<0.11	<0.13	<0.11	0.99
LEAD	5.36	13.80	<1.00	<0.13	3.44	<0.90	1.73	0.90	<0.92	<0.95	2.33	5.05	3.78	4.67	<0.87	2.58
SELENIUM	<0.96	<1.00	<1.26	<1.00	<0.93	<1.09	<1.04	<0.91	<1.12	<1.16	<0.99	<0.97	<0.93	<1.00	<1.00	<0.86
THALLIUM	<1.18	<1.25	11.75	<1.27	<1.13	5.12	<1.27	<1.11	8.77	17.5	<1.20	<1.19	<1.14	<1.26	85.7	<1.00

008-9-F

TABLE 3-1 (CONT'D)

PARAMETER	2-SB-1A	2-SB-1B	2-DUP-1	2-SB-1C	2-SB-2A	2-SB-2B	2-SB-2C	2-SB-3A	2-DUP-2	2-SB-3B	2-SB-3C	2-SB-4A	2-SB-4B	2-SB-4C	2-SB-5A	2-SB-5B
METALS (MG/KG)																
ALUMINUM	4860	11000	9620	1130	4180	3310	863	4980	3900	5220	894	4670	4300	6520	4300	4740
ANTIMONY	<6.40	<6.80	<6.90	<7.00	<6.20	<6.00	<6.90	<6.10	<6.10	<6.40	<6.60	<6.50	<6.23	7.00	<5.80	5.70
BARIUM	181	105	96.2	23.8	133	118	23.3	116	107	101	34.7	243	174	104	142	131
BERYLLIUM	0.59	1.35	1.46	0.20	0.57	0.35	0.10	0.56	0.56	0.58	0.19	0.59	0.57	0.73	0.53	0.52
CADMIUM	<0.92	0.98	<0.98	<0.99	<0.88	0.85	<0.99	<0.87	<0.87	<0.90	<0.94	0.93	<0.89	<0.98	0.91	<0.82
CALCIUM	56300	43600	39900	13800	47700	39700	14600	45800	46600	36500	18200	64500	63300	80900	50700	46200
CHROMIUM	7.00	11.70	11.4	3.27	4.92	4.79	2.34	4.90	4.16	5.84	2.14	5.32	4.52	4.50	12.1	12.4
COBALT	3.83	8.95	8.01	2.50	3.40	3.48	<1.47	2.60	3.31	3.85	1.92	4.30	3.45	3.91	4.51	5.40
COPPER	56.00	29.40	8.51	<0.66	0.59	0.57	<0.66	<0.58	0.72	<0.60	<0.63	2.66	<0.59	<0.66	13.9	23.6
IRON	8250	12000	14300	3150	4140	3740	1650	4950	3600	5570	1360	4870	448	3300	9510	17500
MAGNESIUM	2900	6570	5990	982	2360	1880	747	2520	2110	2750	685	2870	2910	4050	2490	2440
MANGANESE	273	345	378	39.8	170	140	53.0	175	157	168	38.8	190	183	172	213	226
NICKEL	<5.20	10.5	15.2	<5.60	<5.00	<4.80	<5.60	<4.90	<4.90	5.14	<5.30	<5.20	<5.00	<5.60	4.90	12.0
POTASSIUM	1780	2100	1840	356	1140	1510	204	1520	1100	2110	379	1270	1120	3340	1740	1760
SILVER	<0.96	<1.00	<1.00	<1.00	<0.93	<0.90	<1.04	0.91	<0.92	<0.95	<0.99	<0.97	<0.93	<1.00	<0.87	<0.86
SODIUM	645	5690	5500	1890	243	168	1810	156	153	690	1050	439	1130	4320	460	488
VANADIUM	12.70	17.30	24.1	69.7	8.87	8.10	4.80	8.40	7.34	9.40	2.79	9.70	8.89	11.6	11.9	14.8
ZINC	133	51.5	57.4	16.3	21.0	18.1	10.0	22.30	23.2	23.2	8.16	22.4	20.9	18.1	254	352

< = Not detected. The value given is the detection limit. Detection limits for a given compound vary depending on sample matrix.

- = Not detected.

J = Detected, but below the quantification limit listed on the table.

ENV/USFWS/2630Tb3-1

TABLE 3-2

CONCENTRATIONS (in mg/kg) OF METALS TYPICALLY FOUND IN U.S. SOILS

Metal	Concentration Range[1]
Aluminum (%)	0.5 - >10
Antimony	<1 - 2.6
Arsenic	<0.10 - 97
Barium	70 - 5000
Baryllium	<1 - 15
Cadmium	NA
Calcium (%)	0.06 - 32
Chromium	3 - 2000
Cobalt	<3 - 50
Iron (%)	0.1 - >10
Lead	<10 - 700
Magnesium (%)	0.03 - >10
Manganese	30 - 5000
Mercury	<0.01 - 4.6
Nickel	<5 - 700
Potassium (%)	0.19 - 6.3
Selenium	<0.1 - 4.3
Silver	NA
Sodium (%)	0.05 - 10
Thallium	NA
Vanadium	7 - 500
Zinc	10 - 2100

1 Taken from Schacklette and Boerngen (1984)

TABLE 3-3

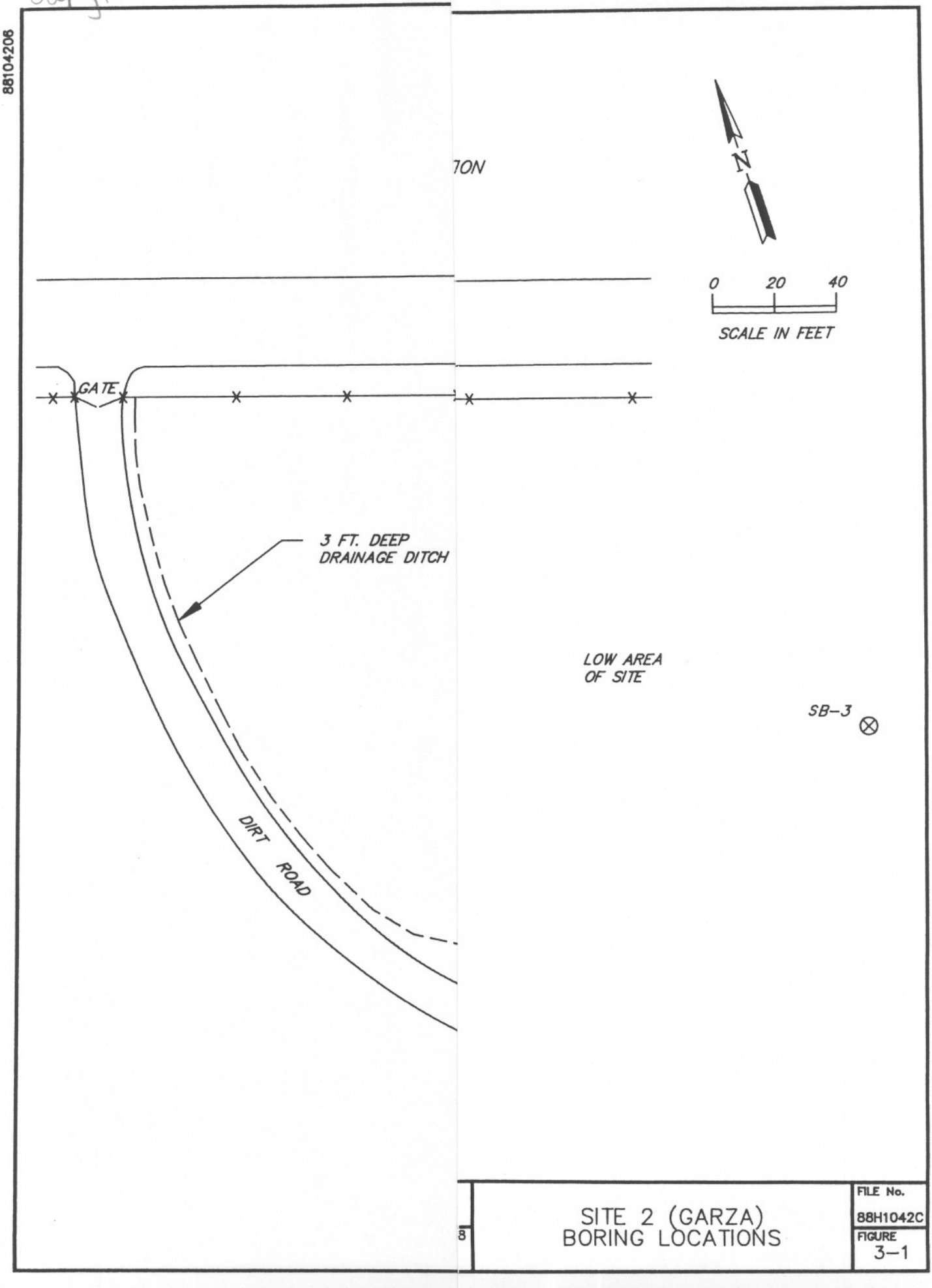
FIELD DUPLICATE RESULTS FOR METALS

(Concentrations are in mg/kg)

	2-SB-1B	DUP-1	RPD (%)	2-SB-3A	DUP-2	RPD (%)
Arsenic	5.46	16.7	101	2.76	3.75	30
Mercury	<0.12	<0.13	--	<0.11	<0.11	--
Lead	13.80	<1.00	--	0.90	<0.92	--
Selenium	<1.0	<1.26	--	<0.91	<1.12	--
Thallium	<1.25	11.75	--	<1.11	8.77	--
Aluminum	11000	9620	13	4980	3900	24
Antimony	<6.8	<6.9	--	<6.1	<6.1	--
Barium	105	96.2	8.7	116	107	8.1
Beryllium	1.35	1.46	7.8	0.56	0.56	0
Cadmium	0.98	<0.98	--	<0.87	<0.87	--
Calcium	43,600	39,900	8.9	45,800	46,600	1.7
Chromium	11.7	11.4	2.6	4.90	4.16	16
Cobalt	8.95	8.01	11	2.60	3.31	24
Copper	29.4	8.51	110	<0.58	0.72	--
Iron	12000	14300	18	4950	3600	32
Magnesium	6570	5990	9.2	2520	2110	18
Manganese	345	378	23	175	157	11
Nickel	10.5	15.2	37	<4.9	<4.9	--
Potassium	2100	1840	13	1520	1100	32
Silver	<1.0	<1.0	--	0.91	<0.92	--
Sodium	5690	5500	3.4	156	153	1.9
Vanadium	17.3	24.1	33	8.4	7.34	14
Zinc	51.5	57.4	11	22.3	23.2	4.0

009.gif

88104206



SITE 2 (GARZA)
BORING LOCATIONS

FILE No.
88H1042C

FIGURE
3-1

010.gif

FIELD BORING LOG

Woodward-Clyde Consultants

Project Name USFWS Contaminants Assessment Boring No. Site 2 SB-1

Project No. 88H1042C Logger's Name M. Spencer Date 02 Oct 1988

Method of Advance: Auger to 25.0 Wash to _____

Free Water Encountered: Yes ☒ No ☐ at 17.0

DEPTH	SAMPLE	RECOVERY	
			Dk. Brown stiff clay, containing glass shards, gravel, wood frags, barbed wire, and cloth.
5	ST	12"	"
			Becoming reddish brown stiff silty clay, containing the same debris as above
10			
15	ST	18"	Reddish Brown silty clay, v. stiff, fracured, iron stained, slightly moist to moist, no debris
			Tan silty sand, fine-medium grained, saturated
20			
25	SS	12"	" Becoming a pebbly gravel, poorly sorted
			Boring terminated at 25.0 ft

ST=Shelby Tube
SS=Split Spoon

BLOW PER FOOT	DESCRIPTIVE TERM
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Firm
31 - 50	Dense
Over 50	Very Dense

POCKET PEN	DESCRIPTIVE TERM
Less than 0.25	Very Soft
0.25 to 0.50	Soft
0.50 to 1.00	Medium
1.00 to 2.00	Stiff
2.00 to 4.00	Very Stiff
4.00 and Higher	Hard

Driller: Masa Drilling Co.
Ronnie Linder

L/4-87

Fig 3-2

011.gif

FIELD BORING LOG

Woodward-Clyde Consultants

Project Name USFWS Contaminants Assessment Boring No. Site 2 SB-2

Project No. 88H1042C Logger's Name W. Dalton Date 25 Oct 1988

Method of Advance: Auger to 15.0 FT Wash to _____

Free Water Encountered: Yes [X] No [ ] at 13.0 FT

DEPTH	SAMPLE	RECOVERY	
			Tan to lt. brown clayey sand, fine to v. fine grained, rooted 0-4 ft, moist, no broken glass or debris
5	ST	15	"
10	ST	18	"Becoming lighter tan and drier.
15	SS	12	" Becoming tan silty sand, saturated, loose, v. fine to fine
20			Boring terminated at 15.0 Ft.
25			

ST=Shelby Tube
SS=Split Spoon

BLOW PER FOOT	DESCRIPTIVE TERM
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Firm
31 - 50	Dense
Over 50	Very Dense

POCKET PEN	DESCRIPTIVE TERM
Less than 0.25	Very Soft
0.25 to 0.50	Soft
0.50 to 1.00	Medium
1.00 to 2.00	Stiff
2.00 to 4.00	Very Stiff
4.00 and Higher	Hard

Driller: Masa Drilling Co.
Ronnie Linder

L/4-87

Fig 3-3

012.gif

FIELD BORING LOG

Woodward-Clyde Consultants

Project Name USEWS Contaminants Assessment Boring No. Site 2 SB-3

Project No. 88H1042C Logger's Name W. Dalton Date 25 Oct 1988

Method of Advance: Auger to 13.0 FT Wash to _____

Free Water Encountered: Yes [X] No [ ] at 9.0 FT

DEPTH	SAMPLE	RECOVERY	
			Tan clayey sand, loose to firm, slightly moist to moist, abundant snail shells, no odor or visible contamination, rooted in upper portion
5	ST	16"	"
			Tan silty sand, v. moist to moist, firm, v. fine to fine grained.
10	SS	18"	"
	SS	15"	"
15			Boring terminated at 13.0 ft

ST=Shelby Tube
SS=Split Spoon

BLOW PER FOOT	DESCRIPTIVE TERM
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Firm
31 - 50	Dense
Over 50	Very Dense

POCKET PEN	DESCRIPTIVE TERM
Less than 0.25	Very Soft
0.25 to 0.50	Soft
0.50 to 1.00	Medium
1.00 to 2.00	Stiff
2.00 to 4.00	Very Stiff
4.00 and Higher	Hard

Driller: Masa Drilling Co.
Ronnie Linder

L/4-87

Fig 3-4

013.gif

FIELD BORING LOG

Woodward-Clyde Consultants

Project Name USFWS Contaminants Assessment — Boring No. Site 2 SB-4

Project No. 88H1042C — Logger's Name W. Dalton — Date 25 Oct 1988

Method of Advance: Auger to 20.0' Wash to _____

Free Water Encountered: Yes ☒ No ☐ at 19.5 Ft

DEPTH	SAMPLE	RECOVERY	
	ST	30"	Tan silty sand, slightly moist, loose, v. fine to fine, rooted, few snail shells
5	ST	26"	Tan Sandy silt, slightly moist, firm to stiff, v. fine to fine
10			Tan clayey silt, medium to v. fine, loose, loose to firm
15	SS	24"	
			Tan silty clay, very stiff to hard, moist, fractured
20			Tan silty sand, loose, v. fine to fine, saturated
			Boring terminated at 20.0 Ft.
25			

ST=Shelby Tube
SS=Split Spoon

BLOW PER FOOT	DESCRIPTIVE TERM
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Firm
31 - 50	Dense
Over 50	Very Dense

POCKET PEN	DESCRIPTIVE TERM
Less than 0.25	Very Soft
0.25 to 0.50	Soft
0.50 to 1.00	Medium
1.00 to 2.00	Stiff
2.00 to 4.00	Very Stiff
4.00 and Higher	Hard

Driller: Masa Drilling Co.
Ronnie Linder

L/4-87

Fig 3-5

614.31F

FIELD BORING LOG

Woodward-Clyde Consultants

Project Name USFWS Contaminants Assessment — Boring No. Site 2 SB-5

Project No. 88H1042C — Logger's Name W. Dalton — Date 26 Oct 1988

Method of Advance: Auger to 13.0 — Wash to _____

Free Water Encountered: Yes ☐ No ☒ at _____

DEPTH	SAMPLE	RECOVERY	
			Light grey silty sand, dry to slightly moist, very loose, abundant broken glass and debris, unconsolidated.
5	SS	18"	"
10	ST	20"	" Containing abundant broken glass and other debris including leather, foil, metal cans, brick fragments, and copper wire
15			Boring terminated at 13.0 Ft, hole collapsed to 6.0 Ft.
20			
25			

ST=Shelby Tube
SS=Split Spoon

BLOW PER FOOT	DESCRIPTIVE TERM
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Firm
31 - 50	Dense
Over 50	Very Dense

POCKET PEN	DESCRIPTIVE TERM
Less than 0.25	Very Soft
0.25 to 0.50	Soft
0.50 to 1.00	Medium
1.00 to 2.00	Stiff
2.00 to 4.00	Very Stiff
4.00 and Higher	Hard

Driller: Masa Drilling Co.
Ronnie Linder

L/4-87

Fig 3-6

015.gif

FIELD BORING LOG

Woodward-Clyde Consultants

Project Name USFWS Contaminants Assessment Boring No. Site 2 SB-5A

Project No. 88H1042C Logger's Name W. Dalton Date 26 October 1988

DEPTH	SAMPLE	RECOVERY	Method of Advance: Auger to 10.0 Wash to _____ Free Water Encountered: Yes ☐ No ☒ at _____
5			Light Grey silty sand, dry to slightly moist, very loose and unconsolidated, abundant broken glass and scrap metal, some cavities
10			Boring terminated at 10.0 Ft. Hole collapsed to 8.0 Ft.
15			
20			

BLOW PER FOOT	DESCRIPTIVE TERM
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Firm
31 - 50	Dense
Over 50	Very Dense

POCKET PEN	DESCRIPTIVE TERM
Less than 0.25	Very Soft
0.25 to 0.50	Soft
0.50 to 1.00	Medium
1.00 to 2.00	Stiff
2.00 to 4.00	Very Stiff
4.00 and Higher	Hard

Driller: Masa Drilling Co.
Ronnie Linder

L/4-87

Fig 3-7

4.0 SITE 3 (COTTAM): ABOVE-GROUND TRASH DUMP SITE

4.1 SITE LOCATION AND DESCRIPTION

Site 3 is located in Hidalgo County, Texas via Highway 83 and Farm Road 494. From Farm Road 494, the site is accessible by a public gravel road atop the International Boundary and Water Commission (IBWC) south levee. The site is located between a dirt road at the southern toe of the IBWC levee and the northern tip of the resaca (former Rio Grande River path).

Site 3 (Figure 4-1) is a northeast-southwest trending arch perched approximately 20 to 25 ft above the eastern tip of the resaca. The resaca is a former curved path of the Rio Grande River that has been cut off from the main stream of the river (in this case, by man). The portion of the site which was investigated is bounded to the northwest by a gravel road approximately 20 ft from the top of the steep slope. A survey stake in the gravel road marks the end of the site to the southwest. An east-west line from the north survey stake to the gravel road bounds the site to the northeast. The site contains an abundance of dumped trash and debris between the gravel road and the toe of the steep slope. The area between the center of the site and the northeast boundary contains the densest trash cover.

4.2 SITE HISTORY

Site 3 has been used as an illegal dumping ground for various garbage. Much of the dumping has occurred along the gravel site road which runs along the south toe of the IBWC south levee. The types of garbage found at the site suggest many different episodes of dumping. Intermittent flooding of the resaca has washed various debris and garbage on shore and inland up to the toe of the steep slope below the site road.

4.3 FIELD INVESTIGATIONS

The field investigations performed at Site 3 consisted of one soil boring, surface soil and sediment sampling, and a general site reconnaissance.

4.3.1 Soil Borings

One soil boring was drilled using an Ardco top head drive drilling rig. The rig was mounted on a 4 x 4 all terrain diesel-powered carrier. A dry auger drilling method was employed using a 4-inch diameter solid stem auger bit. All borehole samples were collected with a 3-ft Shelby tube sampler. Drill cuttings were discharged onto the ground surface. No drilling fluids were generated with this drilling method. Upon completion of drilling and sampling, the borehole was backfilled with original materials.

All sampling equipment was decontaminated prior to sampling. Shelby tubes were scrubbed with an Alconox detergent solution and rinsed with distilled water. Decontaminated tubes were wrapped in aluminum foil until their use.

Soil boring SB-1 was drilled through the surface debris between the gravel road and the edge of the steep resaca slope. The boring was terminated at the maximum depth of 15 ft (Figure 4-2). Three soil samples and one duplicate sample were collected. Samples were collected at depths of 3 to 5 ft (samples 3-SB-1A and 3-DUP-1), 8 to 10 ft (sample 3-SB-1B), and 13 to 15 ft (sample 3-SB-1C). From 0 to 7 ft in depth, the soil was a dark brown-to-black silty clay with abundant burnt wood fragments. At 7 ft, the soil became a light reddish brown silty clay with sand lenses to depth. The soil appeared to be undisturbed beyond 7 ft. None of the soil boring samples contained any visual contamination or odor.

4.3.2 Surface Soil and Sediment Samples

A total of four surface soil and sediment samples were collected from Site 3 (Figure 4-1). Surface soil samples 3-SS-1 and 3-SS-2 were collected along the steeply dipping

slope of the resaca. The samples were collected within areas of heavy debris concentrations and where contaminants may have migrated from the top of the slope. Neither sample contained any physical contamination or odor. Two sediment samples were collected from the moist surface near the bank of the resaca. Samples 3-SED-1 and 3-SED-2 were collected near the water's edge directly downslope from samples 3-SS-1 and 3-SS-2, respectively. Neither sediment sample contained any visual contamination or odor.

4.3.3 Site Reconnaissance

The surface debris at Site 3 was visually examined to a depth of 6 inches for the presence of containers which may have possibly held hazardous contents. By request of the USFWS, the area east of the site between the dirt road and the resaca to the USFWS fence was included (offsite).

The containers which were found within the dense debris pile included scattered empty 1-quart plastic motor oil containers, empty paint buckets, and empty cans of aerosol spray paint. A 5-gallon bucket of polyurethane coating was found approximately 15 ft from the boring location. The bucket was approximately three-fourths full and contained an isocyanate component. Approximately 65 ft northeast of borehole, near the road intersection, lies a pile of ceiling tile which may contain asbestos. A 5-gallon bucket of Monsey Plastic Roof Cement was found approximately 75 ft west of the borehole. Piles of roofing shingles were found throughout the site. Older roofing shingles have been known to contain asbestos fibers. It is not known if any of the roofing shingles found at the site are of this variety. Some badly rusted and decomposed 55-gallon drums were located at the toe of the steep resaca slope. Some of the these drums may have been washed ashore during intermittent flood stages.

Most of the debris located east of the site was concentrated in separate piles, representing different episodes of dumping. The most common debris found included paint cans, contact adhesive cans, old tires, oil containers and lumber piles. A few mounds of roofing shingles were located. Again, it is not known if these varieties contain asbestos fibers. One empty black 55-gallon drum marked "radioactive

material" was found in a debris pile near the USFWS fence at the top edge of the resaca slope. The full label read "Radioactive Material NOS USA D.O.T. 7A Type A." An address was found on the container: NSSI, 5711 Etheridge, Houston, Texas. The drum was empty and the inside was rusted. No unusual debris was found near the drum.

4.4 ANALYTICAL RESULTS

4.4.1 Sample Analyses and Results

Because this site had been used as an illegal trash dump where an unknown suite of chemicals may have been disposed in the past, samples collected from the soil boring and from surface soils and sediments were analyzed for a near complete suite of hazardous substance list parameters that includes volatile organics (EPA Method SW846-8240), semi-volatile organic compounds (EPA Method SW846-8270), and metals. The metals were analyzed using EPA-prescribed methods as detailed in Section 3.4.1. Pesticides were also tested for as part of the semivolatile analyses (SW846-8270), but since they were not present above instrumental detection limits, they were not further analyzed using gas chromatographic methods.

The chemical data for the analytes detected in these samples are summarized in Table 4-1. Of the volatile compounds, methylene chloride and acetone were each detected in six samples and 2-butanone in one sample. Methylene chloride was reported at levels ranging from 7 to 16 µg/kg, while acetone was reported to range from 22 to 1100 µg/kg. Methylene chloride, acetone, and 2-butanone are common laboratory contaminants. Therefore, the detection of these compounds does not appear to be significant.

A number of semivolatile organic compounds were detected in five of the eight samples from Site 3. However, in all but two instances, the amounts reported were well below the practical quantitation limit. Bis(2-ethylhexyl)-phthalate was reported at 5400 µg/kg in sample 3-SB-1B and di-n-octyl phthalate at 530 µg/kg. It is unclear whether these results represent possible laboratory contamination or a level of

are within the range of values reported for these elements in soils and surficial materials (Table 3-2), with the exception of antimony. Antimony was reported at levels of 6.44 and 6.45 mg/kg, while detection limits for this suite of samples ranged from 5.7 to 7.2 mg/kg, depending on characteristics of the sample matrix, such as percent moisture. This suggests that the antimony values detected may not be significant.

Samples were not tested for asbestos, radioactivity, or isocyanate compounds.

4.4.2 Laboratory QA/QC

Keystone Environmental Resources laboratory followed all QA/QC procedures

- Surrogate Recoveries - Surrogates are isotopically labelled and environmentally rare compounds that were spiked into samples prior to analysis. Their recoveries were all well within prescribed recovery limits.

- Matrix Spike Recoveries - All compounds that were spiked and analyzed were within the recovery limits.

- Duplicate analyses - All matrix spike samples were analyzed in duplicate and the precision of the analyses was within acceptable limits, except for 4-nitrophenol. However, since this compound was not detected in any of the samples, its recovery is not of any significance.

- Calibrating and tuning data for the organics analyses suggest that the instruments were operating under prescribed instrumental conditions.

4.4.3 Field QA/QC

As described in Section 4.3.1, one sample was collected in duplicate from the soil boring at Site 3, Samples 3-SB-1A and 3-DUP-1. The metals data for the duplicate sample are summarized in Table 4-2. Relative percent differences (RPDs) were calculated as explained in Section 3.4.3. As noted, RPD is a measure of the laboratory precision and the homogeneity of the soil. Since the laboratory precision was found to be good based on the matrix spikes and matrix spike duplicates, the RPDs between the field duplicates are primarily a measure of field duplication measures and the soil homogeneity. Since the RPDs are in general low (Table 4-2), with the exception of copper, it appears that the soil is fairly homogeneous.

4.5 RECOMMENDATIONS

Based upon the results of the analytical testing and field observations, most of the debris at this site can be disposed of at a permitted landfill such as the CNT Regional Landfill (Linn, TX), the Hidalgo County Landfill (Edinburg, TX), or the Brownsville Landfill. The roofing shingles, while they may contain asbestos, did not appear to be friable and thus would not be subject to special handling or disposal requirements.

WCC contacted NSSI of Houston; the supplier of the drum marked "radioactive". We were informed that the drum was at least 10 years old and could have been supplied to one of the medical centers in the valley. Contact was also made with personnel of the Bureau of Radiation in Austin who concurred that the drum was likely purchased by a medical facility. The types of radioactive medical wastes usually placed in such drums have a very short life, usually a maximum of 80 days. We recommend that USFWS request that the Bureau of Radiation perform a radioactive survey of the drum and adjacent area. Such a survey can be requested by contacting Mr. Doug Johnson of the Bureau in Corpus Christi at (512) 888-7766. Should the drum have a positive reading for radioactivity, the Bureau will attempt to trace the owner and require them to perform any cleanup related to radioactive contamination.

The 5-gallon bucket of polyurelthane coating containing an isocyanate component should not be disposed of in a municipal landfill. Many communities provide for annual or semi-annual collection of small amounts of hazardous materials, which are then containerized and disposed of at a licensed treatment and disposal facility. If such a service is offered in the McAllen area, the bucket and its contents could be handled by that means. Alternatively, individual arrangements should be made for transport and disposal at a licensed treatment and disposal facility.

Estimated costs for cleanup are extremely uncertain due to topographic conditions, i.e., the presence of heavy rip-rap and potentially unstable conditions at the bottom of the slope. In order to completely remove the debris, the rip-rap may need to be removed and replaced. Unstable conditions may present an unacceptable risk for using a dozer at the bottom of the slope and thus require removal of debris by manual labor. Both conditions would have substantial cost impacts.

For purpose of this cost estimate, we have assumed that the rip-rap will remain in place and that a dozer can be used. We have further assumed that cleanup will require 15 10-hour days according to the following unit rates:

large tractor with arm	$ 70/hr
dozer	$ 55/hr
operators (2) @ $12/hr	$ 24/hr
laborers (4) @ $10/hr	$ 40/hr
haul/disposal (180 yd^3)	$ 1,140

Thus, the estimate for cleanup and disposal would total approximately $30,000.

TABLE 4-1

SUMMARY OF ANALYTICAL RESULTS

SITE 3 - COTTAM

	SOIL BORINGS				SURFACE SOIL		SEDIMENT SAMPLING	
	3-SB-1A	3-DUP-1	3-SB-1B	3-SB-1C	3-SS-1	3-SS-2	3-SED-1	3-SED-2
PARAMETER								
VOLATILE ORGANIC COMPOUNDS (ug/kg)								
METHYLENE CHLORIDE	7	16	-	14	11	-	18	17
ACETONE	-	22	47	160	61	-	53	1100
2-BUTANONE	-	-	-	-	-	-	-	14
SEMIVOLATILE ORGANIC COMPOUNDS (ug/kg)								
BIS(2-ETHYLHEXYL)PHTHALATE	150J	-	5400	130J	-	360J	-	-
BENZOIC ACID	-	-	160J	250J	-	-	-	-
DI-N-OCTYL PHTHALATE	-	320J	-	530	-	-	-	-
FLUORANTHENE	-	230J	-	-	-	-	-	-
PYRENE	-	280J	-	-	-	-	-	-
BENZO(A)ANTHRTACENE	-	340J	-	-	-	-	-	-
BENZO(B)FLUORANTHENE	-	680J	-	-	-	-	-	-
BENZO(K)FLUORANTHENE	-	590J	-	-	-	-	-	-
BENZO(A)PYRENE	-	480J	-	-	-	-	-	-
INDENO(1,2,3-CD)PYRENE	-	720J	-	-	-	-	-	-
DIBENZO(A,H)ANTHRACENE	-	480J	-	-	-	-	-	-
BENZO(G,H,I)PERYLENE	-	460J	-	-	-	-	-	-
PESTICIDES/PCBS (ug/kg)	-	-	-	-	-	-	-	-
METALS (mg/kg)								
ARSENIC	6.07	7.15	8.61	10.0	7.69	6.19	4.63	7.37
MERCURY	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
LEAD	19.6	21.4	17.9	61.4	99.6	125	5.90	11.9
SELENIUM	<0.82	<0.82	<0.82	<0.82	<0.82	<0.82	<0.82	<0.82
THALLIUM	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

TABLE 4-1 (CONT'D)

	SOIL BORINGS				SURFACE SOIL		SEDIMENT SAMPLING	
	3-SB-1A	3-DUP-1	3-SB-1B	3-SB-1C	3-SS-1	3-SS-2	3-SED-1	3-SED-2
PARAMETER								
METALS (mg/kg)								
ALUMINUM	8630	8410	11900	19100	8330	6220	4270	11600
ANTIMONY	<6.4	6.45	<6.7	<7.2	<5.7	6.44	<6.2	<6.9
BARIUM	173	160	193	248	162	149	110	174
BERYLLIUM	1.10	1.11	1.22	1.87	0.98	0.37	0.72	1.39
CADMIUM	<0.91	<0.92	<0.95	<1.0	1.46	2.00	<0.88	0.98
CALCIUM	81400	93000	84500	68600	93300	139000	55300	110000
CHROMIUM	11.0	10.1	13.7	16.4	10.9	20.0	6.00	11.8
COBALT	5.96	5.42	9.10	10.0	6.03	6.07	4.11	6.05
COPPER	28.3	7.11	18.7	17.0	40.5	41.5	3.41	8.90
IRON	11800	11100	16500	21100	15100	32600	7160	14000
MAGNESIUM	4490	4230	5810	6700	4070	3520	2500	5390
MANGANESE	338	315	513	524	325	333	175	347
NICKEL	13.1	12.8	15.2	16.1	9.17	27.3	6.16	11.5
POTASSIUM	2280	2240	2300	3350	2320	2270	1290	2770
SILVER	<0.96	<0.96	<1.0	<1.1	<0.85	<0.96	<0.93	<1.0
SODIUM	277	319	540	479	290	324	189	1040
VANADIUM	20.0	19.3	24.7	33.1	21.1	23.5	14.1	23.4
ZINC	53.9	53.3	60.9	78.2	724	359	32.0	53.5

< = Not detected. The value given is the detection limit. Detection limits for a given compound vary depending on sample matrix.

- = Not detected.

J = Detected, but below the quantification limit listed on the table.

TABLE 4-2

FIELD DUPLICATE RESULTS

FOR METALS (CONCENTRATIONS ARE IN MG/KG)

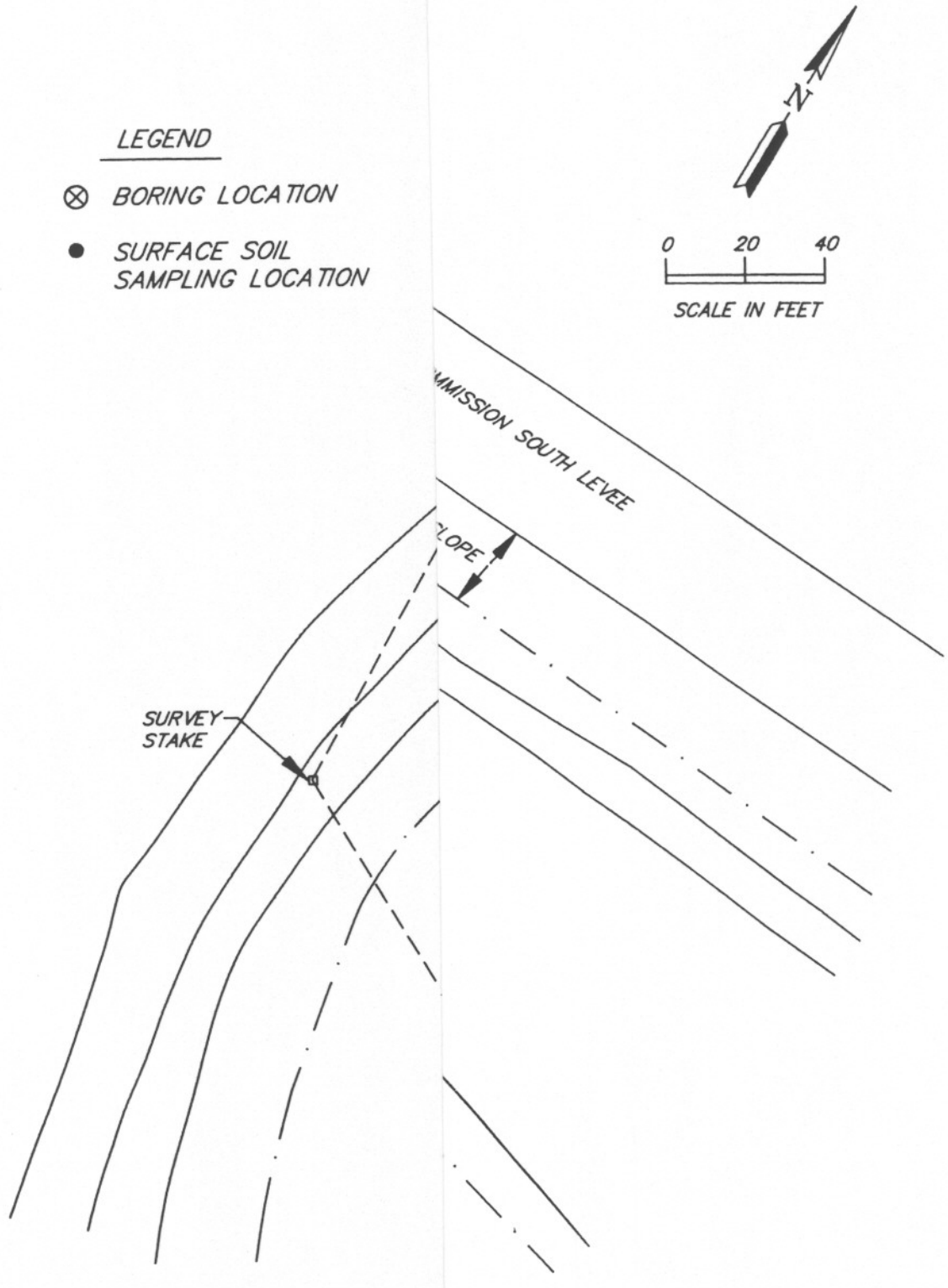
SITE 3-COTTAM

	Sample 3-SB-1A	Sample 3-DUP-1	RPD (%)
Arsenic	6.07	7.15	16
Mercury	<0.1	<0.1	--
Lead	19.6	21.4	8.8
Selemium	<0.82	<0.82	--
Thallium	<1.0	<1.0	--
Aluminum	8630	8410	2.5
Antimony	<6.4	6.45	--
Barium	173	160	4.2
Beryllium	1.10	1.11	0.9
Cadmium	<0.91	<0.92	--
Calcium	81400	93000	13.3
Chromium	11.0	10.1	8.5
Cobalt	5.96	5.42	9.5
Copper	28.3	7.11	(120.)
Iron	11800	11100	6.1
Magnesium	4490	4230	5.9
Manganese	338	315	7.0
Nickel	13.1	12.8	2.3
Potassium	2280	2240	1.8
Silver	<0.96	<0.96	--
Sodium	277	319	14.1
Vanadium	20.0	19.3	3.6
Zinc	53.9	53.3	1.1

Note: RPDs calculated using the formula RPD (%) = $\frac{D_1 - D_2}{(D_1 + D_2)/2} \times 100$, where D_1 and D_2 are the duplicate results.

016.gif

88104207



SITE 3 (COTTAM)
BORING AND
SAMPLING LOCATIONS

FILE No.
88H1042C

FIGURE
4–1

017.gif

FIELD BORING LOG

Woodward-Clyde Consultants

Project Name USFWS Contaminants Assessment Boring No. Site 3 B-1

Project No. 88H1042C Logger's Name W. Dalton Date 26 Oct 1988

Method of Advance: Auger to 15.0 Wash to _____

Free Water Encountered: Yes ☐ No ☒ at _____

DEPTH	SAMPLE	RECOVERY	
			Dark Brown-Black silty clay, hard, with abundant well rounded rock fragments, moist, rooted w/abund. burnt wood fragments
5	ST	14"	Light Redish-Brown silty clay, stiff, moist to very moist, contains v. fine sand lenses
10	ST	22"	— Becoming Iron stained and fractured, increasing moisture content, stiff
15	ST	14"	Boring terminated at 15.0 ft.
20			
25			

ST=Shelby Tube

BLOW PER FOOT	DESCRIPTIVE TERM
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Firm
31 - 50	Dense
Over 50	Very Dense

POCKET PEN	DESCRIPTIVE TERM
Less than 0.25	Very Soft
0.25 to 0.50	Soft
0.50 to 1.00	Medium
1.00 to 2.00	Stiff
2.00 to 4.00	Very Stiff
4.00 and Higher	Hard

Driller: Masa Drilling Co.
Ronnie Linder

L/4-87

Figure 4-2

5.1 SITE LOCATION

The Madero site is located in Hidalgo County, Texas via Farm Road 494. Access to the site is gained through a public gravel road off of Farm Road 494. The site lies within the Rio Grande River meandering belt.

The site is adjacent to a public gravel road which trends roughly north-south. East of the gravel road is the barbed-wire USFWS fence which bounds the site. The site is bounded to the west by a private picnic area on the Rio Grande River waterfront. The Madero site is largely a thickly wooded natural habitat; no structures or clearings were observed. A map showing the general layout of Site 4 (Madero) is included as Figure 5-1.

5.2 SITE HISTORY

In recent months, seven empty and two partially full 55-gallon steel drums were dumped just inside the USFWS fence along the gravel public road. The drums were apparently illegally dumped from the public gravel road. The site history prior to this event is not known.

5.3 FIELD INVESTIGATIONS

The field investigations of Site 4 included a thorough examination of the nine drums for labels noting their contents and collection of a soil sample from the area underlying the drums. In addition, a brief field reconnaissance was performed of the area surrounding the drums for any containers which may be a source of potential site contamination.

5.3.1 Assessment of 55-Gallon Drums

WCC field personnel examined the nine 55-gallon drums which were found at the time of the site visit. The Site 4 map (Madero), included as Figure 5-1, shows the relative location and inventory of each drum.

A group of seven intact drums were located just inside the USFWS fence across the road from the picnic area. All seven drums were sealed and intact. Only two of the seven drums contained any free liquid. The drums which contained liquid are labeled "D" and "E" on Figure 5-1. Each of these drums were identically labeled and were approximately one-tenth full. The drums were labeled "HAI-75 Acid Inhibitor," containing isopropanol and quartarnary ammonia salts. The drums also contained the D.O.T. labels "Flammable Liquid" and "Corrosive." Although the labels clearly identify the original contents of the drums, the actual contents cannot be assessed until the contents are sampled and analyzed. These drums were badly corroded on the underside, increasing their potential for leakage.

Another drum was found approximately 40 ft north of the group of drums along the fence line. This drum was extremely rusted and was only three-fourths intact. This drum was unidentifiable and is labeled "H" on Figure 5-1.

One-half of a drum was located approximately 190 ft south of the group of drums along the fence line. This drum appeared to have been cut in half with a cutting torch. The drum is blue and white in color with no labeling. This drum is labeled "I" on Figure 5-1.

5.3.2 Surface Soil Sample

One surface soil sample (sample 4-SS-1) was collected between drum "B" and the USFWS fence. The sample was collected within the runoff path underlying the drums. Figure 5-1 shows the location of sample 4-SS-1.

A stainless steel knife was used to collect and trim sample 4-SS-1 for the sample bottles. The knife was decontaminated with Alconox solution and rinsed with distilled water prior to sampling. The decontaminated knife was wrapped in aluminum foil until time of sampling. Upon sampling, the sample location was cleared of any vegetation or organic matter down to the soil surface. The dry upper surface of soil was removed to expose fresh soil. The sample was then removed from this area and placed into the sampling jars and sealed.

5.3.3 Site Reconnaissance

A brief reconnaissance of the area surrounding the drums was performed by WCC field personnel. The area surveyed lies between the north drum "H" and the south drum "I" and approximately out to 50 ft east of the USFWS fence.

At the time of the site visit, only a few other containers were located. Directly east of the south drum was an empty 2-gallon can of Ford Hydraulic Fluid. East of the group of seven drums were two to three empty 1-gallon paint cans.

5.4 ANALYTICAL RESULTS

5.4.1 Sample Analyses and Results

Because the extent of leakage, if any, from the 55-gallon drums at Site 4 was unknown, the surface soil sample, 4-SS-1, was analyzed for hazardous substance list parameters. These included volatile organics (EPA Method SW846-8240), semivolatile organic compounds (EPA Method SW846-8270), and metals. The metals were analyzed using EPA-prescribed methods as detailed in Section 3.4.1. Pesticides were also analyzed for as part of the semivolatile analyses (SW846-8270), but since they were not present above instrumental detection limits, they were not further tested using gas chromatographic methods.

Chemical data for the analytes detected in Sample 4-SS-1 are summarized in Table 5-1. Only the common laboratory chemicals, methylene chloride and acetone

were detected in both the sample and the soil blank, suggesting these are laboratory contaminants. No other organic compounds were detected.

The metals are generally present at measurable levels, within the range of values reported for these elements in soils and surficial materials (Table 3-2).

Since seven of the drums also appear to be intact, there does not appear to be leakage from these drums. It is possible that the empty drums were disposed at the site after their usage. Common constituents found along with paint cans are the paint thinners such as 1,1,1-trichloroethane, trichloroethylene etc., but these compounds were not detected above detection limits.

5.4.2 Laboratory QA/QC

Keystone Environmental Resources laboratory followed all QA/QC procedures specified in EPA's laboratory contracts, including:

- Holding Times - All analyses and extractions (and digestions for metals) were performed within the EPA's limits for each analytical procedure).
- Surrogate Recoveries - Surrogates are isotopically labelled and environmentally rare compounds that were spiked into samples prior to analysis. Their recoveries were all well within prescribed recovery limits.
- Matrix Spike Recoveries - All compounds that were spiked and analyzed were within the recovery limits.
- Calibrating and tuning data for the organics analyses suggest that the instruments were operating under prescribed instrumental conditions.

5.4.3 Field QA/QC

No duplicate samples were collected at this site.

5.5 RECOMMENDATIONS

The seven empty drums may be crushed and disposed of at the CNT Regional Landfill (Linn, TX), or the Hidalgo County Landfill (Edinburg, TX).

The two drums containing unknown fluids should be handled as potentially hazardous material. If the drums' contents are as labelled, isopropanol is a common flammable industrial alcohol of relatively low-mammalion toxicity. The ammonia salts are basic compounds commonly used for inhibiting the formation of acids. Therefore, the contents would be both flammable and corrosive, two characteristics of hazardous materials.

WCC recommends that any cleanup contractor selected for Sites 1 or 6 also handle the testing and disposal of these two drums. As a worst case, analytical testing would cost approximately $2,000 per sample and disposal (by incineration) would cost approximately $300 per drum.

TABLE 5-1

SUMMARY OF ANALYTICAL RESULTS

SITE 4 - MADERO

PARAMETER	4-SS-1	4-SS-1 (DUP)	LAB BLANK
VOLATILE ORGANIC COMPOUNDS (ug/kg)			
METHYLENE CHLORIDE	33	15	-
ACETONE	110	69	-
2-BUTANONE	-	-	-
SEMIVOLATILE ORGANIC COMPOUNDS (ug/kg)			
BIS(2-ETHYLHEXYL)PHTHALATE	-	-	-
BENZOIC ACID	-	-	-
DI-N-OCTYL PHTHALATE	-	-	-
FLUORANTHENE	-	-	-
PYRENE	-	-	-
BENZO(A)ANTHRTACENE	-	-	-
BENZO(B)FLUORANTHENE	-	-	-
BENZO(K)FLUORANTHENE	-	-	-
BENZO(A)PYRENE	-	-	-
INDENO(1,2,3-CD)PYRENE	-	-	-
DIBENZO(A,H)ANTHRACENE	-	-	-
BENZO(G,H,I)PERYLENE	-	-	-
			-
PESTICIDES/PCBS (ug/kg)	-	-	-
METALS (mg/kg)			
ARSENIC	3.27	-	<0.6
MERCURY	0.10	-	<0.1
LEAD	0.78	-	<0.62
SELENIUM	1.00	-	<0.82
THALLIUM	1.00	-	<1.0
ALUMINUM	7840	-	6.9
ANTIMONY	6.58	-	<5.5
BARIUM	140	-	<3.4
BERYLLIUM	0.71	-	<0.1
CADMIUM	<0.78	-	<0.78
CALCIUM	69700	-	30.4
CHROMIUM	7.68	-	<0.66
COBALT	4.85	-	<1.2

TABLE 5-1 (CONT'D)

PARAMETER	4-SS-1	4-SS-1 (DUP)	LAB BLANK
METALS (mg/kg)			
COPPER	3.25	-	1.94
IRON	10500	-	3.86
MAGNESIUM	3360	-	<20
MANGANESE	260	-	<0.28
NICKEL	5.36	-	<4.4
POTASSIUM	2580	-	109
SILVER	0.99	-	<0.82
SODIUM	156	-	<21
VANADIUM	18.5	-	<1.0
ZINC	48.2	-	<2.3

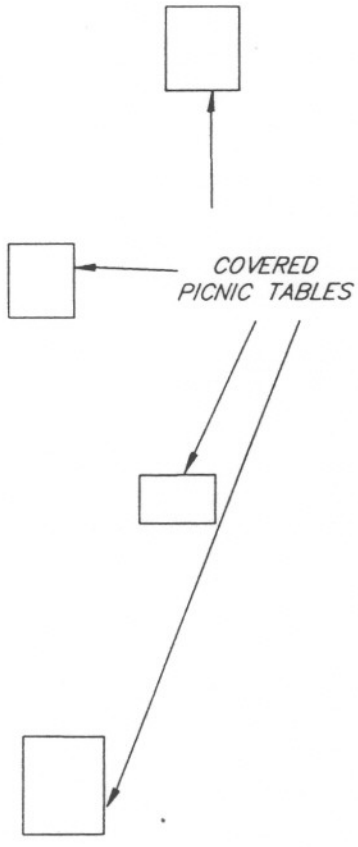
< = Not detected. The value given is the detection limit. Detection limits for a given compound vary depending on sample matrix.

- = Not detected.

J = Detected, but below the quantification limit listed on the table.

018.91F

88104208



INVENTORY

ESCRIPTIION	CONTENTS AND CONDITION
ICALS", N.L. STON. TX.	SEALED AND RUSTED, EMPTY
BURTON SERVICES	SEALED, EMPTY, FAIR CONDITION
FICATION	SEALED AND EMPTY
INHIBITOR" OPANOL AND MMONIA SALTS; AMMABLE RROSIVE"	SEALED AND IS APPROXIMATELY 1/10 FULL, EXTREMELY RUSTED ON UNDERSIDE
/5584" BY	SEALED AND EMPTY
TIFICATION	OPEN ON ONE END, EXTREMELY RUSTED, 3/4 OF DRUM REMAINING
TIFICATION	EMPTY, APPEARS TO HAVE BEEN CUT IN HALF WITH TORCH 1/2 DRUM REMAINING

0
SCAL

PRIVA
PICNIC A

RES

LEGEND

A STEEL 55 GALLON DRUM, INTACT OR PARTIAL, SEE DRUM INVENTORY CODE

• SURFACE SOIL SAMPLE LOCATION

SITE 4
(MADERO) MAP

FILE No. 88H1042C

FIGURE 5-1

6.0 SITE 5 (HIDALGO): FORMER FARM HEADQUARTERS

6.1 SITE LOCATION AND DESCRIPTION

Site 5 (Hidalgo) is located in Starr County, Texas, via Farm Road 1016 and Highway 336. The site is accessible from Highway 336 by a gravel site road.

The former farm headquarters occupies approximately 2 acres of land. The site is approximately 500 ft in length trending roughly east-west. It is widest at the eastern end at 325 ft and narrows to approximately 180 ft to the west. An old resaca lined with palm trees forms the curved north boundary of the site. The elevation drops approximately 20 ft just north of the palm trees. Plowed fields form a rough southern boundary. The site gravel road turns north to form a boundary to the west. An imaginary line from the east side of the farm building north to the resaca bounds the site to the east.

An abandoned wooden farm building stands on the southeast corner of the site. West of the farm building along the gravel road lies an old farm cultivator. About 35 ft further west stands an above-ground metal fuel tank. The tank is elevated approximately 10 ft and is supported by a pipe frame. Northeast of the tank and cultivator, within the brush and trees, are remains of old homestead foundations. A map, showing the major features of the site, is included as Figure 6-1.

6.2 SITE HISTORY

The 2-acre area of Site 5 was a former farm headquarters. Much of what was seen during the site visit was indicative of the site's past history. Old homesteads existed in the central, wooden portion of the site. Farm equipment used to distribute agricultural chemicals, along with the chemicals themselves, were probably stored within the farm building. There is evidence to suggest that the farm building served as a center for work and maintenance of farm equipment. Spent agricultural chemical containers were apparently disposed of in and around the old homestead locations. The above-ground fuel tank probably stored diesel fuel for farm equipment.

6.3 FIELD INVESTIGATIONS

The field investigations performed at Site 5 included surface soil sampling, examination of the above-ground fuel tank, and a detailed site reconnaissance.

6.3.1 Surface Soil Sampling

A total of 11 surface soil samples were collected from Site 5. Surface soil samples were collected from beneath the cultivator, beneath the above-ground fuel tank, in the main room of the farm building, and from the plowed field south of the road. Figures 6-2 and 6-3 show the site sampling locations.

Two surface soil samples were collected from beneath the cultivator. Sample 5-SS-1 was collected beside the three-fourths full 5-gallon can of Alanap-L supporting the west end of the cultivator. Sample 5-SS-2 was collected between the empty 5-gallon can of Prefar 4-E supporting the east end of the cultivator and two one-fourth full cans of Prefar 4-E and Alanap-L behind the cultivator. Neither surface soil sample collected beneath the cultivator contained any visual contamination or odor.

Two surface soil samples were collected from beneath the above-ground fuel tank. The areas beneath the fuel tank chosen as sample locations were those which were most likely to become contaminated as a result of tank overfill. Sample 5-SS-3 was collected directly beneath the north end of the tank. Sample 5-SS-4 was collected directly beneath the spigot assembly at the south end of the tank. The soil in sample 5-SS-4 was dark in color and had a chemical odor.

A total of six surface soil samples (five primary and one QA/QC samples) were collected within the farm building. The sample locations shown on Figure 6-3 were associated with readily apparent spill areas (Figure 6-4). Sample 5-SS-5, located near the northwest corner of the main room near a 25-gallon grease drum, was collected within a spill of a white chalky dust along the west wall out to the drum. Sample 5-SS-6 was collected near the northeast corner of the main room within another white

powdery spill. Sample 5-SS-7 was collected near the north wall in the north central portion of the room within a large spill of a white crystalline substance. Sample 5-SS-8 was collected at the entrance to the west room at the southwest corner of the main room within a spill of a white powder.

Samples 5-SS-9 and 5-DUP-1 (the QA/QC sample) were collected within the south central portion of the main room. Sample 5-DUP-1 was a split (duplicate) of sample 5-SS-9.

One background surface soil sample (5-SS-10) was collected within the plowed field south of the gravel site road.

Strict sampling and decontamination protocols were followed to assure data quality and reproducibility. Samples were collected using a decontaminated stainless steel knife or trowel. Sampling equipment was decontaminated prior to each sample collection. Equipment decontamination consisted of a wash with an Alconox detergent solution followed by a distilled water rinse. Decontaminated equipment was immediately wrapped in aluminum foil until the time of sampling. The surface of each sampling location was cleared of any foreign matter or debris prior to sampling.

6.3.2 Above-Ground Fuel Tank

As per the scope of services, the contents of the above-ground fuel tank on the west side of the site was to be sampled should it contain any liquids. The filter assembly was removed from the spigot located at the south end of the tank. Plastic was spread underneath the spigot to protect the soil from the contents of the tank. No liquids flowed from the tank after the spigot was opened. After tilting the north end of the tank, it was apparent that the tank was empty. The spigot was opened completely to view the inside bottom of the tank. The bottom of the tank contained an oily residue--probably residuals from diesel fuel. Because the tank was found to be empty, no liquid sample was obtained.

6.3.3 Reconnaissance

A field reconnaissance was performed by WCC field personnel at the farm building and of the overall site. Reconnaissance performed at the farm building included mapping any containers within the building and creating a container inventory. Any spills within the building which could be visually identified were also mapped and described in an inventory. The overall site reconnaissance included generating a detailed site map, staking and plotting on the site map any agri-chemical/miscellaneous containers found on the site, and creating a container inventory which includes a description of each container as well as the number of containers.

6.3.3.1 Farm Building Reconnaissance

A detailed reconnaissance was performed at the farm building consisting of a container and spill inventory. Agricultural chemical and other containers were mapped and included as Figure 6-5. Table 6-1 is an inventory of the containers found in the farm building as well as the key to Figure 6-5. Spills within the farm building which could be visually identified were mapped and described within Figure 6-4.

The highest concentration of containers was located within the west room of the farm building. The shelf attached to the south wall of the west room contained a variety of small containers such as cements, greases and glass jars. Containers located along the west wall of the west room included herbicides, lubricants and greases. An open 1-gallon can of weed killer (approximately one-fourth full) was located at the northwest corner of the room. The can has apparently been cut in half, increasing its chances of spillage. A spilled cardboard container of filter cleaner lies at the entrance to the room. Containers identified in the main room include various seeds (including poison treated), greases, herbicides, emulsifiers, and other miscellaneous containers. The only container identified within the small rooms on the east side of the farm building was a cracked green plastic 5-gallon bucket which was knocked over. The bucket was located near the entrance of the northeast store room. The bucket contained a white crystalline granular substance. Metal near the bucket was extremely rusted, suggesting that the substance may be corrosive.

Ten spills were identified within the farm building. The spills within the west room included the white powder in the doorway and lubricants along the shelf and west wall associated with the containers. Near the northwest corner of the main room, a white chalky-looking substance lies along the west wall and grease discolors the dirt floor next to the 25-gallon grease drum. Just southeast of the drum, more white chalky powder can be seen. East of the powder, at the near center of the main room, a white crystalline granular substance is spilled similar to that spilled from the bucket in the entrance of the northeast room. White powder lines most of the north wall of the main room.

6.3.3.2 Site Reconnaissance

An overall site reconnaissance was performed and consisted of flagging and mapping any agri-chemical or other potentially hazardous containers, and creating an accurate container inventory including label description and number of containers. Containers, locations, quantities, and descriptions are shown on Figure 6-6. The majority of containers consisted of metal 5-gallon cans of agricultural herbicides. Some containers were rusted or crushed beyond recognition. All containers were empty except for a few containers located at the cultivator. The Alanap-L container supporting the west end of the cultivator is approximately three-fourths full of liquid. The Prefar-4E container supporting the cultivator immediately east of the Alanap-L container is approximately one-fourth full of liquid. The two 5-gallon cans of Prefar-4E and Alanap-L behind the east end of the cultivator are approximately one-fourth full each.

6.4 ANALYTICAL RESULTS

6.4.1 Sample Analyses and Results

Various containers of herbicides, pesticides, and other chemicals were found at the former farm headquarters at Site 5 along with an empty above-ground fuel tank. The surface soil samples collected from the site were analyzed for volatile organic

compounds, pesticides, and herbicides. Samples obtained from the vicinity of the fuel tank were also analyzed for metals, petroleum hydrocarbons, and benzene, toluene, ethyl benzene, and xylene (common fuel components, often referred to as BTEX).

The compounds analyzed for included volatile organics (EPA Method SW846-8240), pesticides and polychlorinated biphenyls (PCBs) (EPA Method SW846-8080), herbicides (EPA Method SW846-8150), BTEX (SW846-8020), total petroleum hydrocarbons (EPA Methods 418.1 and SW846-3540), and metals. The metals were analyzed using EPA-prescribed methods as detailing in Section 3.4.1.

Chemical data for the analytes detected in the nine surface soil samples, one duplicate sample, and one "background" soil sample are summarized in Table 6-2. In the volatile organic analyses, only the common laboratory chemicals methylene chloride and acetone were detected, suggesting that these are laboratory contaminants.

Samples 5-SS-3 and 5-SS-4 were taken under the above-ground fuel tank, 5-SS-3 from the north end and 5-SS-4 from under the spigot at the south end. Although the BTEX compounds were not detected, the total petroleum hydrocarbons studies showed 105 mg/kg in the SS-3 sample and 2800 mg/kg in the SS-4 sample under the spigot. Metals values shown in Table 6-2 are within the range of values reported for natural soil (Table 3-1).

All of the other nine soil samples collected, including the "background soil sample" collected in a plowed field south of the empty fuel tank and west of the farm building, showed some levels of pesticides. No PCBs were detected in the analyses. No herbicides were reported above the detection limits.

The highest levels of pesticides were reported in soil samples 5-SS-5 through 5-SS-9, taken inside the farm building, with lower levels reported in samples 5-SS-1 and 5-SS-2, taken underneath a cultivator near cans of herbicide in the farm yard, and 5-SS-10, the "background" sample taken in the plowed field.

In samples collected from the floor of the farm building, 4,4'-DDE, 4,4'-DDD and 4,4'-DDT were reported, at levels ranging up to 140,000 µg/kg DDT in Sample 5-SS-8. Dieldrin was reported at levels ranging up to 59,000 µg/kg, endrin at up to 280,000 µg/kg, and toxaphene at up to 300,000 µg/kg.

The soil sample from the plowed field, intended to serve as a "background" soil sample, was reported to contain 4,4'-DDE at 1800 µg/kg and toxaphene at 5800 µg/kg. Metals values reported for this sample, however, were also within the range of values reported for natural soil (Table 3-1).

It appears that pesticides are present in the farm building at elevated levels, and that some pesticides may be present in the farm yard soil and plowed field nearby. Petroleum hydrocarbons are present at elevated levels in the soil under the spigot of the empty above-ground fuel tank. Even though BETX compounds were not detected, the petroleum hydrocarbons detected could be the straight-chain aliphatic compounds such as octane and nonane, common constituents of petroleum.

6.4.2 Laboratory QA/QC

Keystone Environmental Resources laboratory followed all QA/QC procedures specified in EPA's laboratory contracts. Some of the procedures are highlighted below, along with a summary of several problems reported by the laboratory.

- Holding times - All analysis and extractions (and digestions for metals) were performed within the EPA's limit for that analysis procedure.

- Surrogate Recoveries - Surrogates are isotopically labelled and environmentally rare compounds that were spiked into samples prior to analyses. All pesticide surrogate recoveries were outside (above) prescribed recovery limits, with recoveries reported from 125 to 348 percent of the amount spiked.

- Matrix Spike Recoveries - All compounds that were spiked and analyzed were within the recovery limits except 1,1-dichloroethylene. However, since this compound was not detected in any of the samples, its recovery is not of any significance.

- Duplicate Analyses - All matrix spike samples were analyzed in duplicate, and the precision of the analyses was within acceptable limits.

- Calibration and tuning data for the organics analyzed suggest that the instruments were operating under prescribed instrumental conditions.

6.4.3 Field QA/QC

As described in Section 6.3.1, one sample was collected in duplicate, 5-SS-9 and 5-DUP-1. These samples were collected from the floor of the farm building. The pesticides data for the duplicate sample are summarized in Table 6-3. Relative percent differences (RPDs) were calculated as explained in Section 3.4.3. As has been noted, RPD measure both laboratory precision and the homogeneity of the sample medium. Despite some problems noted with pesticide surrogate recoveries, the low RPDs (Table 6-3) suggest that overall laboratory precision is good.

6.4.4 Discussion

Elevated levels of the pesticides, 4-4' DDE (1,1-dichloro 2,2-bis (p-chlorophenyl) ethylene), 4-4' DDT (1,1,1-trichloro 2,2-bis (4-chlorophenyl) ethane), 4-4' DDD (1,1-dichloro 2,2-bis (4-chlorophenyl) ethane), dieldrin, endrin and toxaphene were measured only in samples from inside the farm building apparently associated with the spill areas (samples 5-SS-5 through 5-SS-8). Sample 5-SS-9 collected from the south central portion of the main room and its duplicate 5-DUP-1 were not collected from visually identifiable spill areas and they do not contain measurable levels of the pesticides. Therefore, it appears that the visually identifiable spill areas (Figure 6-4) are the only areas that require clean up. These compounds in general have low solubility (<1 ppm); thus, it is not likely that they may have been dissolved and

transported to ground water. However, for these compounds, bioaccumulation is an important mechanism which results in accumulation of pesticides in the tissues of organisms that are exposed. These compounds also have high adsorption to the sediments such that the soil tends to concentrate the pesticides as well.

The herbicides found inside the farm building were "treflan" and "prefar-4-E" (Table 6-2). These herbicide compounds are 2,6-dinitro n,n-dipropyl 4-(trifluoro-methyl) benzamine and N-(2-mercaptoethyl) benzene sulfonamide, respectively. The herbicide compounds analyzed for in the soil samples were 2,4-D (2,4-dichloro phenoxy acetic acid), 2,4,5-T (2,4,5-trichlorophenoxy acetic acid) and silvex (2,4,5-trichlorophenoxy propynoic acid) and they were found to be below detection limits. It is not known if the herbicides found in the cans inside the farm building were sprayed extensively in this area. Since these compounds were not analyzed, one cannot rule out their presence in the soil at measurable levels.

For the pesticides found in the soil, there do not appear to be established clean up levels.

6.5 RECOMMENDATIONS

6.5.1 Elevated Fuel Tank

The tank contains only a residual oil film. It should first be cleaned with a HOTSY type of steam/detergent cleaning solution. The small amount of wash water generated during the cleaning operation should be disposed of as contaminated material.

The tank should then be purged to displace the vapors using either water, air, nitrogen, or carbon dioxide (dry ice). Water is typically avoided because of the resulting quantity of contaminated water produced and the potential for overflow problems. Dry ice is often selected for purging because of the ease of application. Only about 1.5 pounds of evenly distributed, crushed dry ice is required per 100 gallons of tank capacity. The heavy gas will force the lighter vapors to be displaced.

Once the tank is thoroughly purged it is ready for disposal or recycling. Locating disposal facilities that will accept tanks is becoming increasingly difficult because of the liability associated with contaminated tanks. Many recycling and landfills are turning away tanks altogether, while others are requiring thorough documentation of cleaning. Because of these concerns, we recommend that the tank be cut into scrap metal and disposed of at the CNT Regional Landfill (Linn, TX) or the Hidalgo County Landfill (Edinburg, TX).

The total cost to clean, purge, and dispose of the tank as scrap metal would be approximately $200 to $300.

Estimated charges for excavating, transporting and disposing of petroleum contaminated soils beneath the tank are factored into the estimated costs for removing other contaminated site soils discussed in the following section.

6.5.2 Pesticide-Related Waste Removal and Disposal

6.5.2.1 Hazard Indicators and Protective Measures

There are four designated categories of hazards to describe a pesticide. The category is assigned on the basis of the highest hazard shown by any of the following indicators:

Oral LD_{50}

Inhalation LC_{50}

Dermal LD_{50}

Eye Effects

Skin Effects

Category I pesticides represent the highest degree of hazard to human health. Category IV pesticides represent the least hazardous materials to human health. All pesticide products meeting the criteria of Toxicity Category I, bear on the front panel

the signal work "DANGER". In addition, if the product was assigned to Toxicity Category I on the basis of its oral, inhalation or dermal toxicity (as distinct from skin and eye local effects), the word "POISON" together with the skull and crossbones appear on the label.

All pesticide products meeting the criteria of Toxicity Category II bear on the front panel the signal work "WARNING". All pesticide products meeting the criteria of Toxicity Category III bear on the front panel the signal word "CAUTION". Finally, all pesticide products meeting the criteria of Toxicity Category IV bear on the front panel the signal word "CAUTION".

The organo-phosphate pesticide products are especially dangerous to humans -- they are systemic (absorb through the skin and mucous membranes) and are highly toxic to humans. ICI Americas, Inc. AMBUSH insecticide represents the other side of the human toxicity spectrum -- it is not life threatening to humans upon exposure. This compound, however, warrants special handling and care because it is extremely toxic to crusteaceans. No amount of this material can be spilled into any water which will ultimately reach the Gulf of Mexico.

The cleanup contractor should provide site personnel with protective clothing and respiratory protection appropriate for protection against exposure to the highest Toxicity Category of pesticide product on the site. The training and work experience of cleanup personnel should meet the requirements of Section 126(e) of the "Superfund Amendments and Reauthorization Act of 1986" (SARA) for directing investigations or responses covered by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as amended (CERCLA or "Superfund" Act) such as cleanup of hazardous waste sites, certain hazardous waste operations conducted under the Resource Conservation and Recovery Act of 1976 as amended (RCRA), and emergency response to incidents involving the handling, processing and transportation of hazardous substances.

6.5.2.2 Cleanup Procedures

The cleanup contractor should first segregate the canisters according to whether they are (1) empty or (2) contain solids or (3) contain liquids. Then, the canisters containing liquids or solids should be further segregated according to DOT hazard class and compatibility. Once segregated, these containers should be put in drums and the appropriate DOT hazard labels should be attached. Empty containers can be triple-rinsed, punctured to facilitate drainage, and then disposed of in a permitted landfill. The residues and rinse liquids, however, must be drummed for incineration. Given the small number of empty canisters relative to other cleanup requirements at the site, we recommend that they be disposed of with the other canisters (see Section 6.5.2.3).

6.5.2.3 Disposal Methods

Pesticides can only be disposed of by chemical treatment or incineration. After July 8, 1989, pesticide-contaminated materials (i.e., soils) cannot be landfilled. While chemical methods and procedures will degrade some pesticides to forms which are not hazardous to the environment, practical methods are not available for all groups of pesticides. Thus, after July 8, 1989, incineration will be the most practical disposal method for the majority of pesticides and pesticide-contaminated materials. Other products at the farm site are greases, solvents, and oils which are best disposed of by incineration.

The Chemical Waste Management facility at Carlyss, Louisiana is permitted, until July 8, 1989, to landfill pesticide-contaminated soils. Rollins Environmental Services of Deer Park, Texas is the closest incineration facility for disposal of the pesticides and other products and, after July 8, 1989, pesticide-contaminated soils.

6.5.2.4 Cleanup and Disposal Cost Estimate

The following cost estimates have been provided by Rollins Environmental Services (FS), an affiliate of Rollins Environmental Services which performs cleanup and disposal services. These estimates are based on unit rates for cleanup services (Appendix B), information provided by WCC, and the experience of Rollins on other pesticide cleanups. They are intended only to provide USFWS with approximations of potential costs and are based on the assumption that 1 ft of surface soil would need to be removed from the entire interior of the farm building.

Two estimates have been provided. One estimate assumes that pesticide-contaminated soil is disposed of at the Chemical Waste Management landfill at Carlyss, Louisiana prior to July 8, 1989. The second estimate assumes that all disposal will be by incineration at the Rollins facility at Deer Park, Texas.

1. Cost Estimate - Landfill Pesticide-Contaminated Soil and Incinerate Pesticides and Containers

A. Cleanup

Personnel		$ 3,600
Equipment and Supplies		1,328
	Subtotal	$ 4,928

B. Transportation

Soil to Carlyss		$ 8,800
Pesticides/Containers to Deer Park		607
	Subtotal	$ 9,407

C. Disposal

Soil at Carlyss		$ 10,937
Pesticides/Containers at Deer Park		3,060
	Subtotal	$ 13,997
	TOTAL	**$ 28,332**

2. Cost Estimate - Incineration

A. Cleanup

Personnel		$ 3,600
Equipment and Supplies		1,328
	Subtotal	$ 4,928

B. Transportation

Soils to Deer Park		$ 6,260
Pesticides/Containers to Deer Park		607
	Subtotal	$ 6,067

C. Disposal

Soils at Deer Park		$ 81,667
Pesticides/Containers at Deer Park		3,060
	Subtotal	$ 84,727
	TOTAL	**$ 96,522**

TABLE 6-1

CONTAINER INVENTORY OF FARM BUILDING

KEY TO FIGURE 6-5

Map Code	Description
A (Containers on shelf)	Containers on shelf from east to west: 2 - 1 lb. 2 oz. small ½ full open can "Escoweld-#7501A," Exxon 1 - 8 oz. full can "Rely-on" putty, Armstrong Co. 1 - 1 qt. glass jar, containing approximately 1 oz. brown liquid 1 - used oil filter 1 - empty plastic gallon container "Preston Anti-freeze" 1 - 1 qt. full closed can of grease
B	1 - 5 gal. gas can with approx. 1 pt. of liquid
C	1 - 5 gal. can of "Prefar 4-E" broadleaf weed killer, Stauffer Chemical Co., Westport, CT 06880 Active ingredient: S-(0,0-diisopropyl phosphoro-dithioate) of N-(2-mercaptoethyl) benzene-sulfonamide
D	1 - 5 gal. empty open can of bearing grease
E	1 - 3 gal. closed plastic container "Treflan" herbicide, Elanco Products Co., Indianapolis, IN 46206
F	1 - 1 gal. closed can of "Treflan"
G	5 - 5 gal closed metal can of John Deere "Hy-Gard" transmission and hydraulic oil. 3 cans containing approx. 1 pt. of liquid.
H	2 - 5 gal. closed, empty metal buckets of lubricant--labels cannot be identified
I	1 - 1 gal. full closed can of "Chevron Spray Sticker," containing 45% olefin aromatic polymers

TABLE 6-1 (CONT'D)

Map Code	Description
J	1 - 5 gal. closed, empty can of "Di-Syston 8" Emsulsifiable Systematic Insecticide, Mobay Chemical Corp., Box 4913, Kansas City, MO 64120
K	1 - 1 gal. can, cut in half, $\frac{1}{4}$ full of "Dacamine 4D" weed killer, Diamond Chemical
L	1 - 1 gal. closed, empty plastic "Peak Antifreeze" container
M	1 - 2 lb. open carboard box of "Donaldson D-1400 Detergent Air Filter compound with carbon-dissolving additive"--spilled in doorway
N	1 - 25 gal. open metal drum of petroleum product (no markings) covered with grease
O	4 - 1 qt. cans of seeds, Ferry and Morris Seed Co.
P	1 - 5 gal. rusted in half can of ortho emulsifier
Q	1 - 1 qt. open can of seeds, Niagra seeds
R	2 - 1 gal. cans of poison-treated seeds, Walter Baxter Seed Co.
S	1 - 5 gal. metal bucket $\frac{1}{2}$ full of a solid substance
T	1 - 5 gal. crushed metal bucket--no identification
U	1 - 5 gal. green, open, cracked plastic bucket--contains a white crystalline substance, approx. 3/4 full which has spilled

TABLE 6-2

SUMMARY OF ANALYTICAL RESULTS

SITE 5 - HIDALGO

	VICINITY OF CULTIVATOR		VICINITY OF FUEL TANK		FARM BLDG						PLOWED FIELD
	5-SS-1	5-SS-2	5-SS-3	5-SS-4	5-SS-5	5-SS-6	5-SS-7	5-SS-8	5-SS-9	5-DUP-1	5-SS-10
PARAMETER											
VOLATILE ORGANIC COMPOUNDS (ug/kg)											
METHYLENE CHLORIDE	5	6	NT	NT	20	-	16	21	17	22	17
ACETONE	28	32	NT	NT	60	52	91	52	69	52	63
2-BUTANONE	-	-	NT	NT	-	-	-	-	-	-	-
PESTICIDES/PCBS (ug/kg)											
4,4'-DDE	39	100	NT	NT	14000	12000	2700	20000	4500	5300J	1800
DIELDRIN	-	20	NT	NT	15000	-	1200	59000	6300	7900J	-
4,4'-DDT	-	-	NT	NT	49000	67000	6400	140000	37000	43000	-
TOXAPHENE	-	-	NT	NT	210000	110000	36000	300000	52000	58000J	5800
4,4'-DDD	-	-	NT	NT	-	9200	2900	-	8700	11000	-
ENDRIN	-	-	NT	NT	-	-	-	280000	-	-	-
METHOXYCHLOR	-	-	NT	NT	-	-	-	-	46000	58000	-
HERBICIDES (ug/kg)											
2,4-D	-	-	NT	NT	-	-	-	-	-	-	-
SILVEX	-	-	NT	NT	-	-	-	-	-	-	-
2,4,5-T	-	-	NT	NT	-	-	-	-	-	-	-
BTEX (ug/kg)											
BENZENE	NT	NT	-	-	NT	NT	NT	NT	NT	NT	NT
TOLUENE	NT	NT	-	-	NT	NT	NT	NT	NT	NT	NT
XYLENE	NT	NT	-	-	NT	NT	NT	NT	NT	NT	NT
ETHYL BENZENE	NT	NT	-	-	NT	NT	NT	NT	NT	NT	NT

TABLE 6-2 (CONT'D)

	VICINITY OF CULTIVATOR		VICINITY OF FUEL TANK		FARM BLDG						PLOWED FIELD
	5-SS-1	5-SS-2	5-SS-3	5-SS-4	5-SS-5	5-SS-6	5-SS-7	5-SS-8	5-SS-9	5-DUP-1	5-SS-10
PARAMETER											
TOTAL PETROLEUM HYDROCARBONS (mg/kg)	NT	NT	105	2500	NT	NT	NT	NT	NT	NT	NT
METALS (mg/kg)											
ARSENIC	NT	NT	4.36	3.87	NT	NT	NT	NT	NT	NT	6.21
MERCURY	NT	NT	<0.1	<0.1	NT	NT	NT	NT	NT	NT	<0.1
LEAD	NT	NT	15.9	14.3	NT	NT	NT	NT	NT	NT	11.5
SELENIUM	NT	NT	<0.87	<0.88	NT	NT	NT	NT	NT	NT	<0.84
THALLIUM	NT	NT	<1.1	<1.1	NT	NT	NT	NT	NT	NT	<1.0
ALUMINUM	NT	NT	NT	-	NT	NT	NT	NT	NT	NT	7620
ANTIMONY	NT	NT	<5.8	<5.9	NT	NT	NT	NT	NT	NT	<5.6
BARIUM	NT	NT	NT	-	NT	NT	NT	NT	NT	NT	160
BERYLLIUM	NT	NT	0.82	0.73	NT	NT	NT	NT	NT	NT	0.80
CADMIUM	NT	NT	0.83	0.84	NT	NT	NT	NT	NT	NT	<0.80
CALCIUM	NT	NT	NT	-	NT	NT	NT	NT	NT	NT	92200
CHROMIUM	NT	NT	7.55	7.96	NT	NT	NT	NT	NT	NT	8.73
COBALT	NT	NT	NT	-	NT	NT	NT	NT	NT	NT	6.25
COPPER	NT	NT	5.83	5.41	NT	NT	NT	NT	NT	NT	8.10
IRON	NT	NT	NT	-	NT	NT	NT	NT	NT	NT	11800
MAGNESIUM	NT	NT	NT	-	NT	NT	NT	NT	NT	NT	4260
MANGANESE	NT	NT	NT	-	NT	NT	NT	NT	NT	NT	366
NICKEL	NT	NT	8.04	6.10	NT	NT	NT	NT	NT	NT	11.2
POTASSIUM	NT	NT	NT	-	NT	NT	NT	NT	NT	NT	3110
SILVER	NT	NT	<0.87	<0.88	NT	NT	NT	NT	NT	NT	<0.84
SODIUM	NT	NT	NT	-	NT	NT	NT	NT	NT	NT	173
VANADIUM	NT	NT	NT	-	NT	NT	NT	NT	NT	NT	21.8
ZINC	NT	NT	45.0	42.0	NT	NT	NT	NT	NT	NT	48.6

NT = Not tested.

< = Not detected. The value given is the detection limit. Detection limits for a given compound vary depending on sample matrix.

- = Not detected.

J = Detected, but below the quantification limit listed on the table.

TABLE 6-3

FIELD DUPLICATE RESULTS FOR PESTICIDES

(Concentrations are in μ g/kg)

Site 5 - HIDALGO

Parameter	Soil Sample 5-SS-9	Soil Sample 5-DUP-1	RPD (%)
4,4'-DDD	8700	11000	23
4,4'-DDE	4500	5300J	16
4,4'-DDT	37000	43000	15
Dieldrin	6300	7900J	23
Methoxychlor	46000	58000	23
Toxaphene	52000	58000J	11

Note: J modifier indicates that compound is present, but below the listed detection limit.

88104209

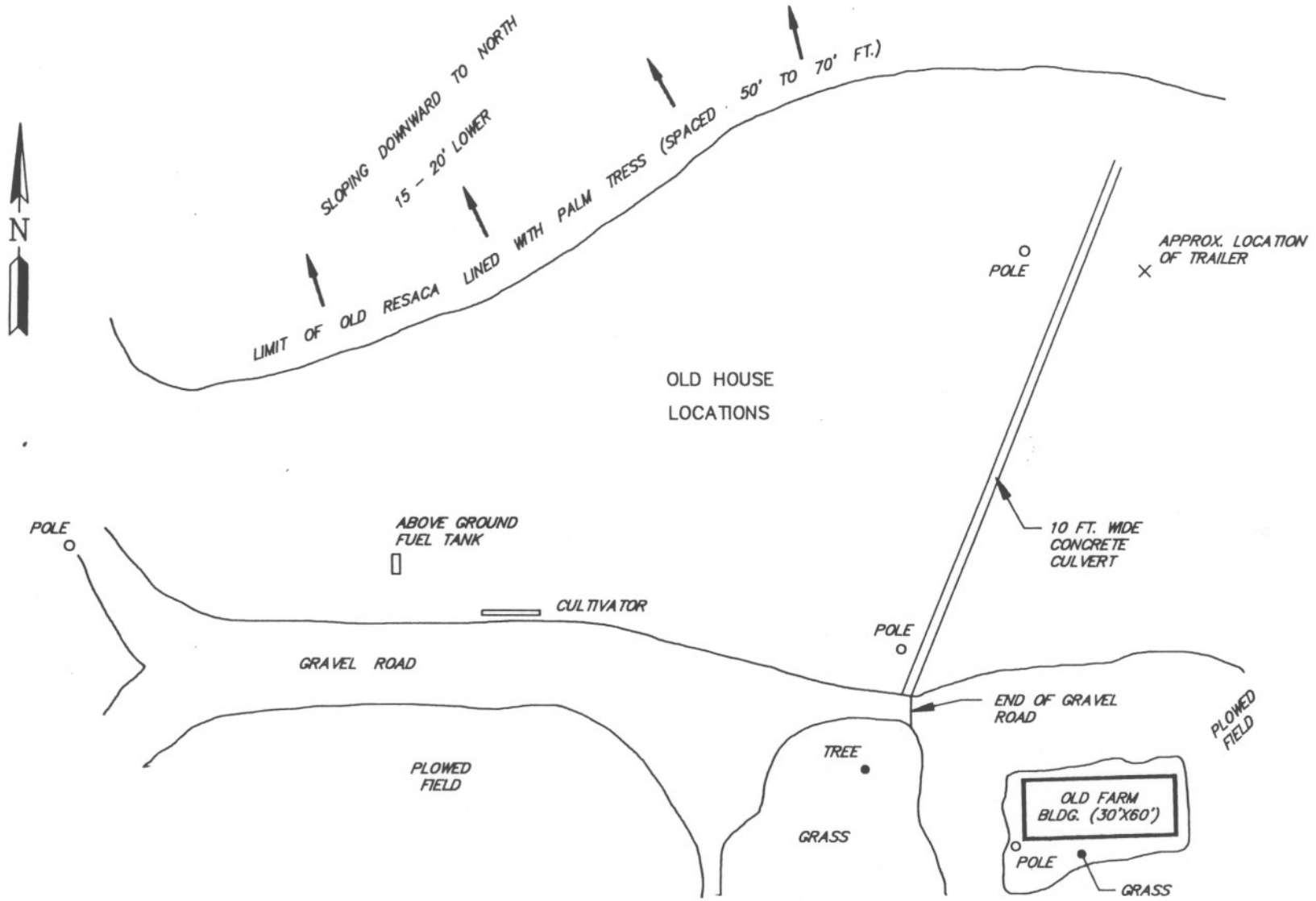
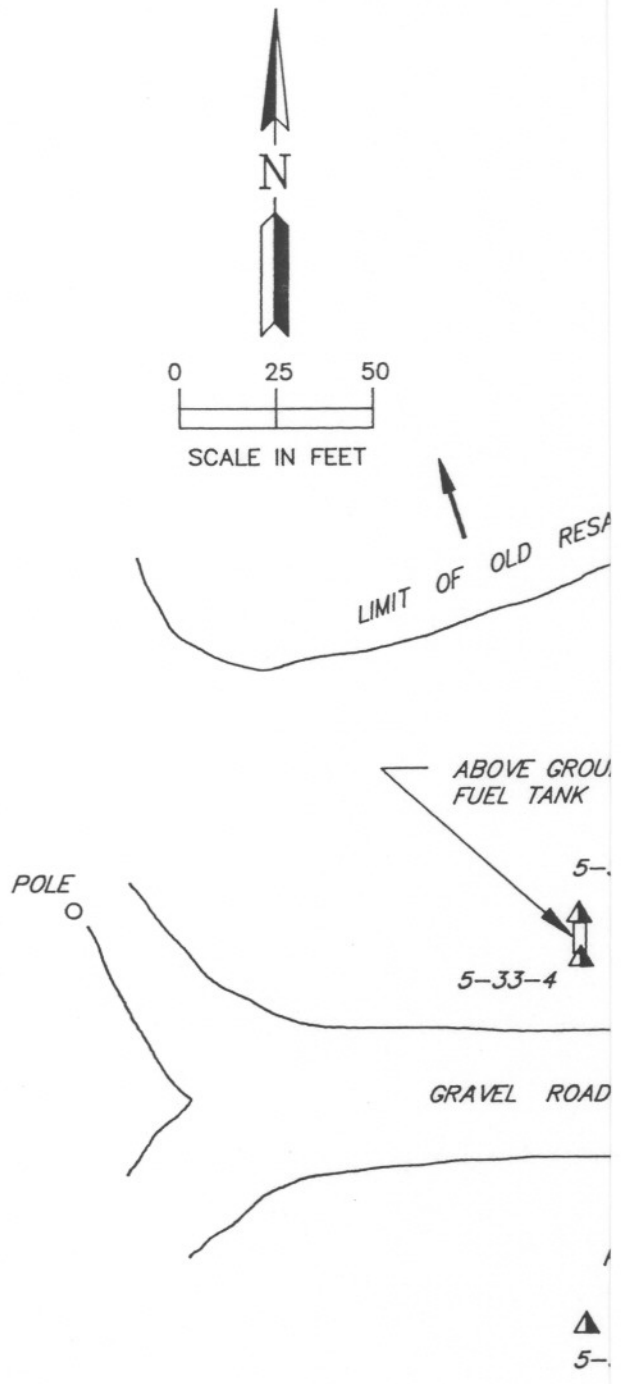


FIGURE 6-1	FILE NO. 88H1042C	NAME CONTAMINANTS ASSESSMENT FOR U.S. FISH & WILDLIFE SERVICE	Woodward-Clyde Consultants SCALE: N.T.S. MADE BY: P.R. DATE: 11/12/88 CHECKED BY: DATE:	SITE 5 (HIDALGO) MAP	FILE NO. 88H1042C FIGURE 6-1

022.gif

88104210



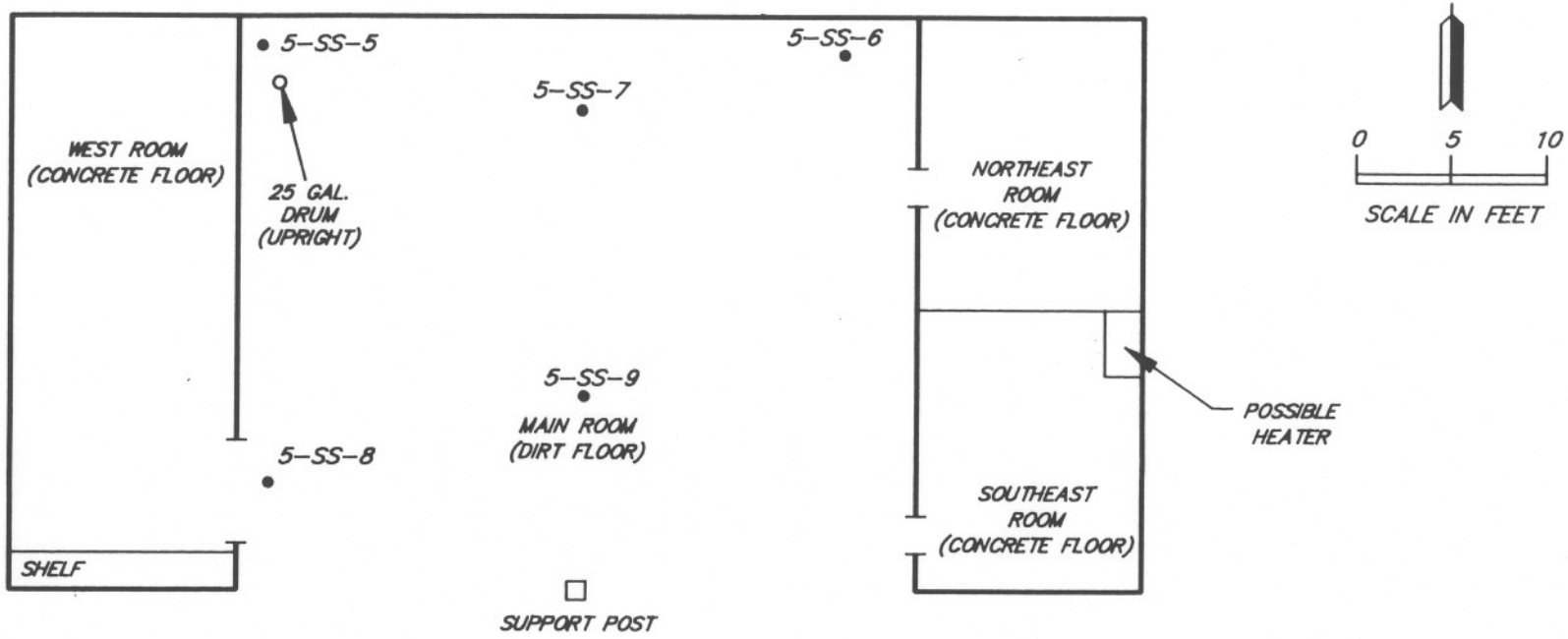
LEGEND

▲ SAMPLE POINTS

8	SITE 5 SURFACE SOIL SAMPLING LOCATIONS	FILE No. 88H10420
		FIGURE 6-2

(8-2) 88104211

023,91F



NOTE:
REFER TO TABLE 6-1 FOR
SAMPLE DESCRIPTIONS.

FIGURE 6-3	FILE No. 88H1042C	NAME: CONTAMINANTS ASSESSMENT	Woodward-Clyde Consultants	OLD FARM BUILDING SURFACE SOIL SAMPLING LOCATIONS	FILE No. 88H1042C
		FOR: U. S. FISH & WILDLIFE SERVICE	SCALE: NOTED; MADE BY: R.W.S. DATE: 11/11/88; CHECKED BY: DATE:		FIGURE 6-3

024.gif

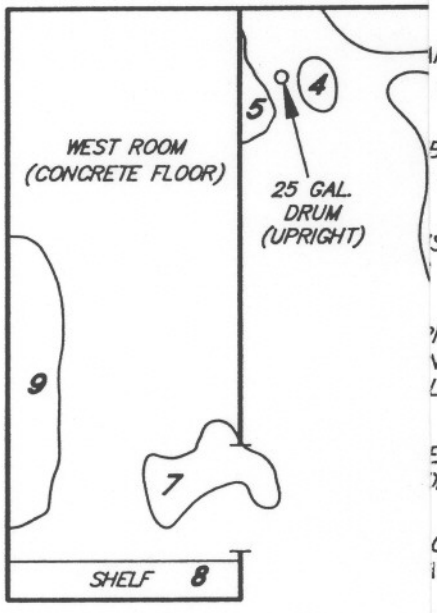
88104213

DESCRIPTION

ENTRANCE AND INSIDE NORTHEAST ROOM

GRANULAR MATERIAL ON FLOOR IN
OM FROM 5 GAL. BUCKET; SIMILAR SUBSTANCE
RTION OF MAIN ROOM

ONG LENGTH OF NORTH WALL IN MAIN ROOM



INED SOIL NEAR 25 GAL. STEEL GREASE
(NON- IDENTIFIABLE)

BSTANCE (POWDER AND SOLID) BETWEEN
AND WEST WALL OF MAIN ROOM

S ON FLOOR; SOIL ON FLOOR MAY BE

ILLED ON FLOOR AND IN DOORWAY OF THE
ND ON SOIL AT ENTRANCE (FROM SPILLED
LTER CLEANER BOX)

ER SUBSTANCES ON SHELF MOUNTED ON
OF WEST ROOM

ON FLOOR ALONG WEST WALL OF THE WEST
TED WITH GREASE CANS

38

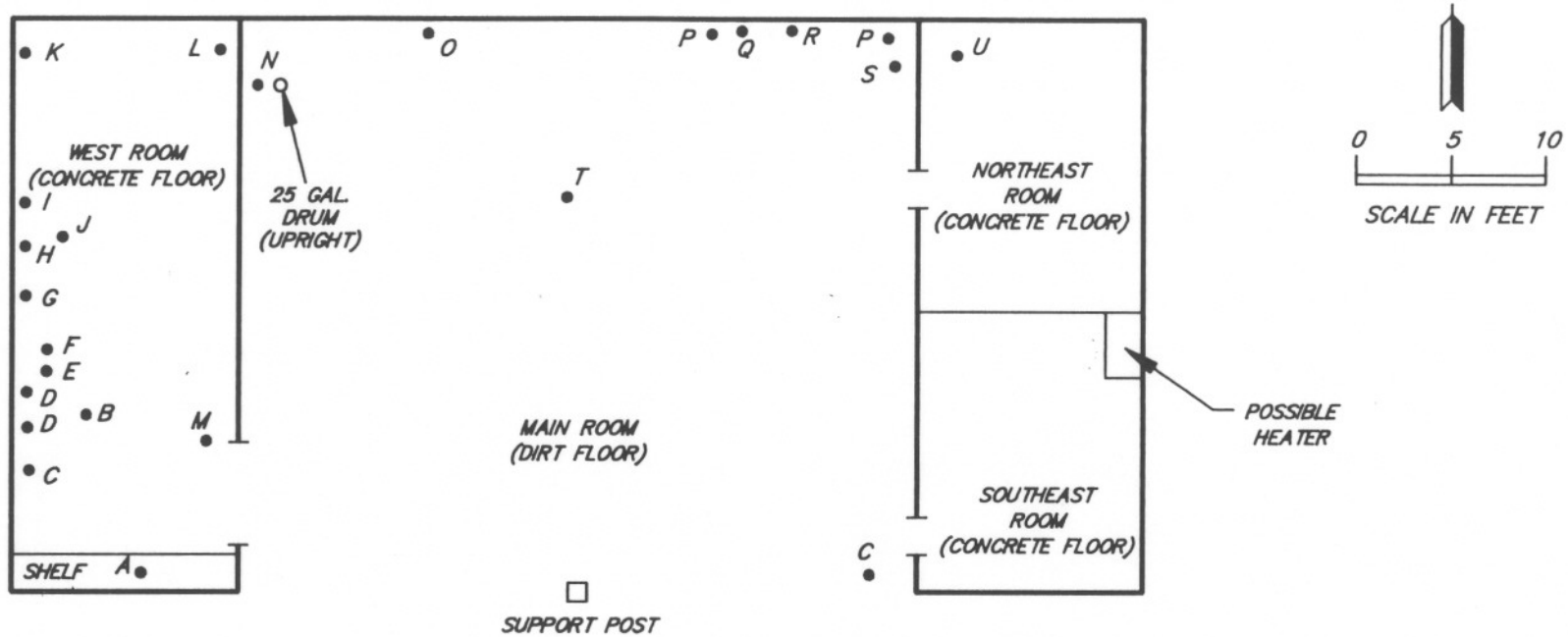
SITE 5
OLD FARM BUILDING
SPILL LOCATIONS

FILE No.
88H1042C

FIGURE
6-4

(6-3) 881042I1

025.9F

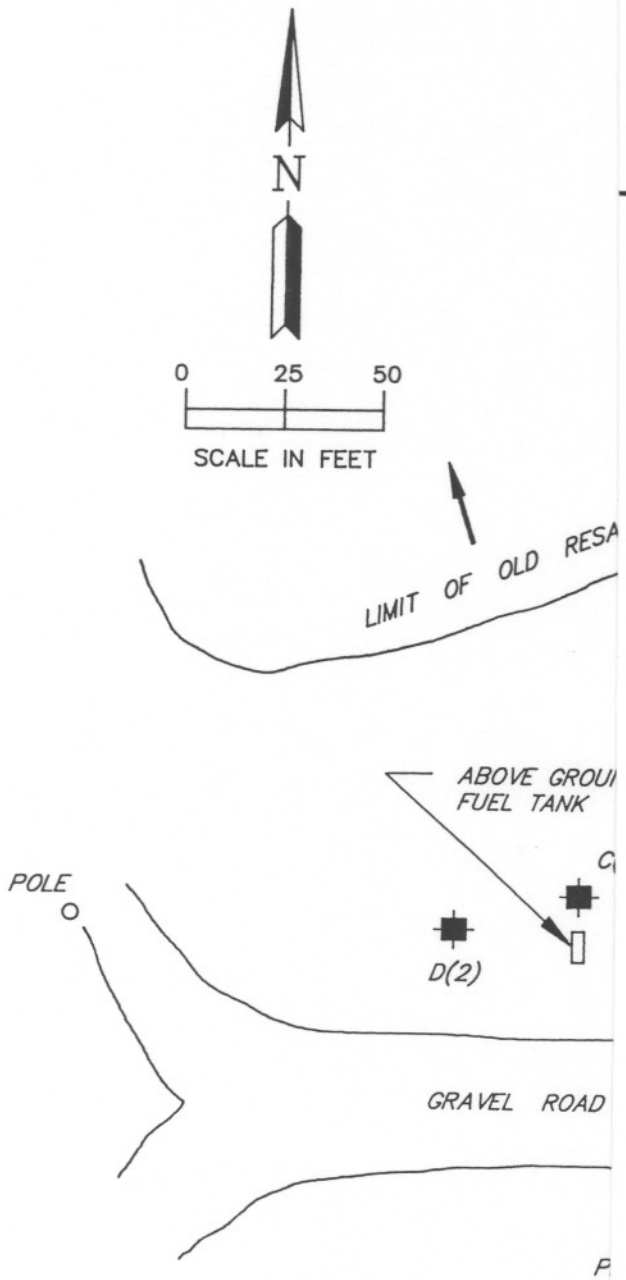


NOTE:
REFER TO TABLE 6-1 FOR
CONTAINER DESCRIPTIONS.

FIGURE 6-5	FILE No. 88H1042C	NAME: CONTAMINANTS ASSESSMENT FOR: U. S. FISH & WILDLIFE SERVICE	Woodward-Clyde Consultants SCALE: NOTED MADE BY: R.W.S. DATE: 11/11/88 CHECKED BY: DATE:	OLD FARM BUILDING CONTAINER LOCATIONS	FILE No. 88H1042C FIGURE 6-5

026.gif

88104210



DESCRIPTION

ALANAP–L™ Broad leaf weed killer, MFG. by Uniroyal. Chem. Co., Inc., Naugatock, CN. 06770; 5 gallon can.

Container label rusted or crushed beyond recognition.

PREFAR™ 4E Broadleaf weed and grass killer, MFG. by Stauffer Chemicals, Westport; CN., 06880; 5 gallon can.

1 QT. Plastic empty motor oil.

BASALIN™ Herbicide; MFG. By BASF Chem. Co.; 5 gallon can.

FUNDAL™ 4EC Insecticide / ovicide, for use on cotton; 5 gallon can.

TREFLAN™ Herbicide, MFG. by Elanco Products Co; Indianappolis, IN. 46206; 5 gallon can.

GUNTHIAN™ 2C Herbicide, MFG. by Mobay Chem. Corp., Box 4913, Kansas City, MO. 64120; 5 gallon can.

55 gallon drum (empty) rusted, no labelling

Car battery with cracked case.

Mission Brand Chemicals (Tex–Ag Company)

Ambush Insecticide; ICI Americas, INC.

LEGEND

■ CONTAINER LOCATIONS

A(2) 2 ALANAP–L CONTAINERS

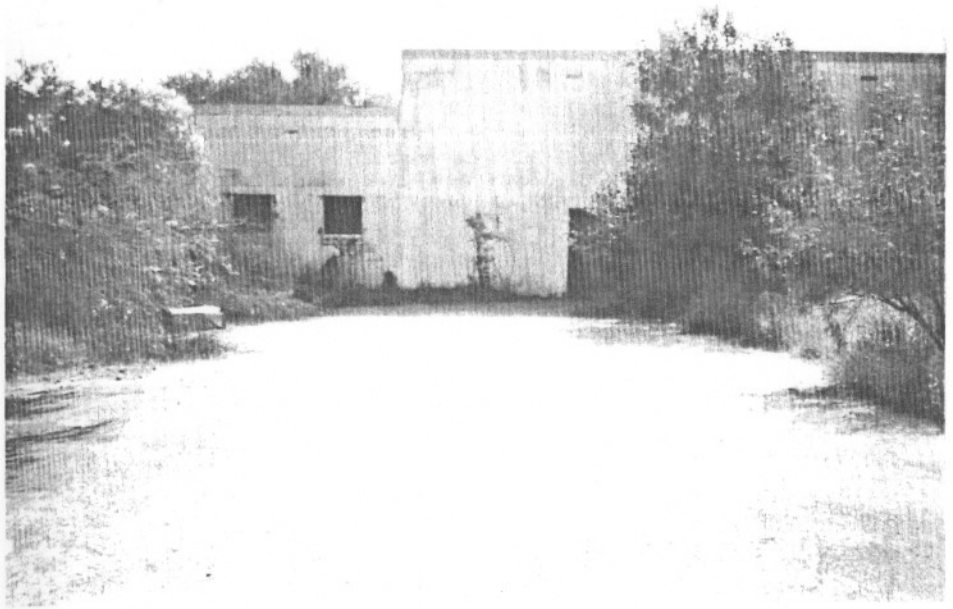
SITE 5 CONTAINER LOCATIONS AND INVENTORY	FILE No. 88H10420 FIGURE 6-6

APPENDIX A

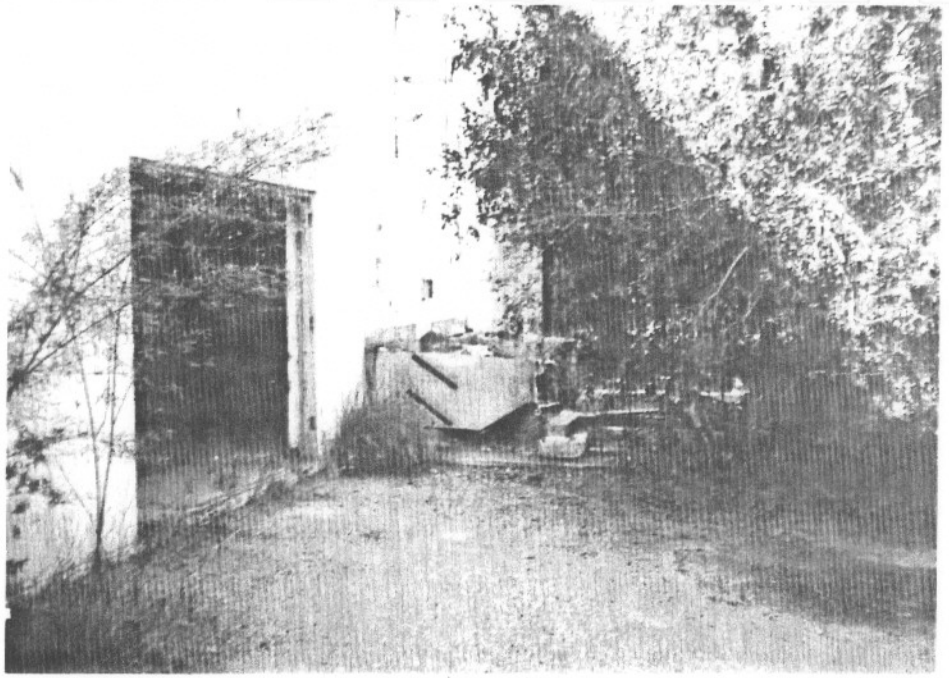
SITE PHOTOGRAPHS

APPENDIX A-1

SITE 1 (FRONTON)

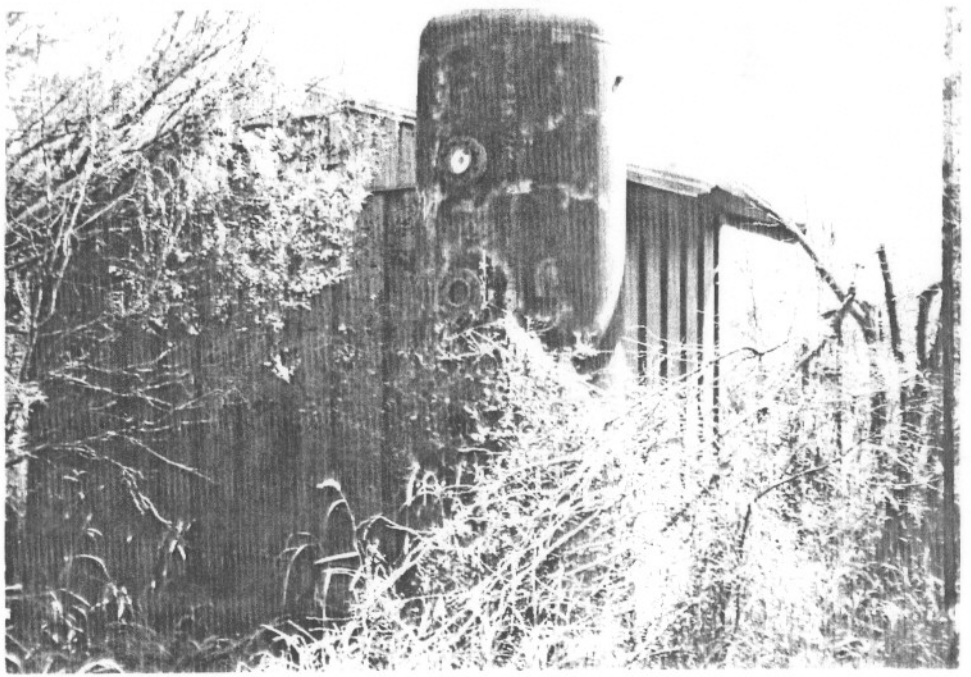


027.gif Central Transmitter Building

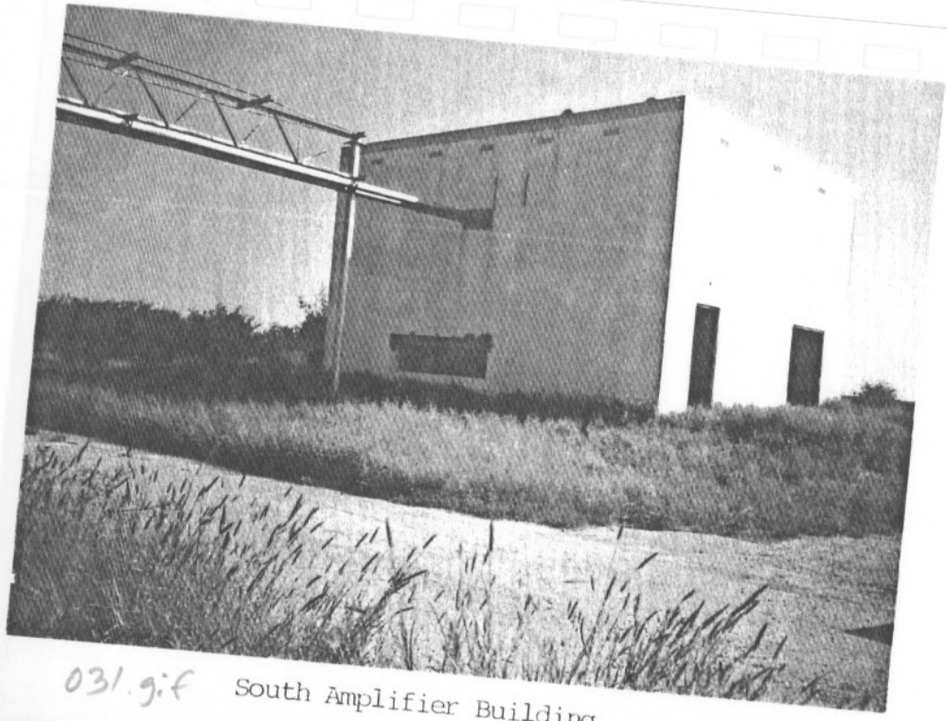


029.gif Site of former A/C compressor or exhaust fan - Central Transmitter Building

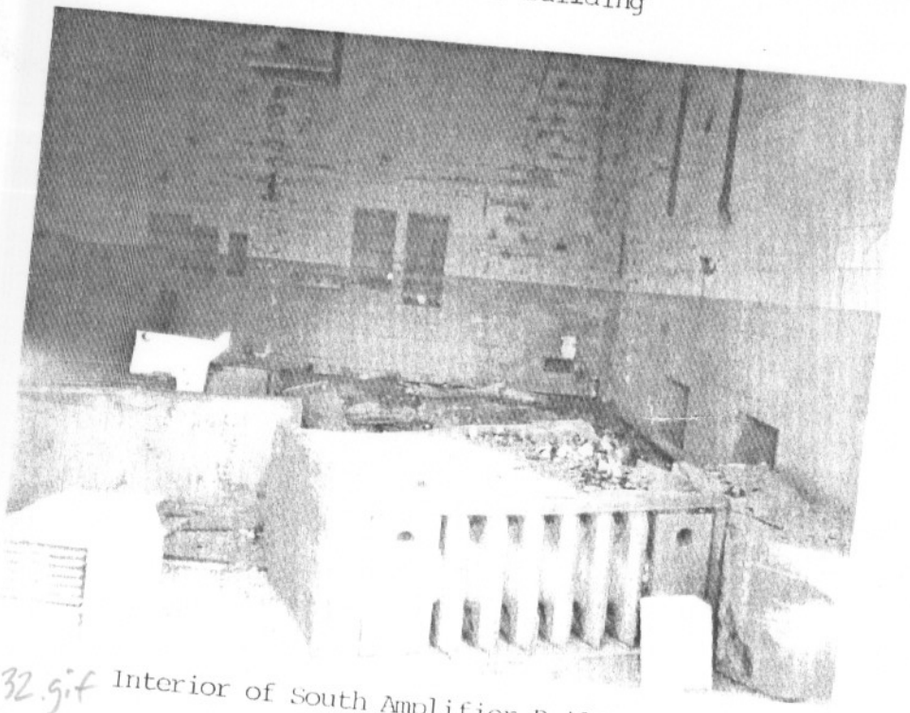
028.gif Pump house and transformers - Central Transmitter Building



030.gif Tank at corner of pump house - Central Transmitter Building



031.gif South Amplifier Building

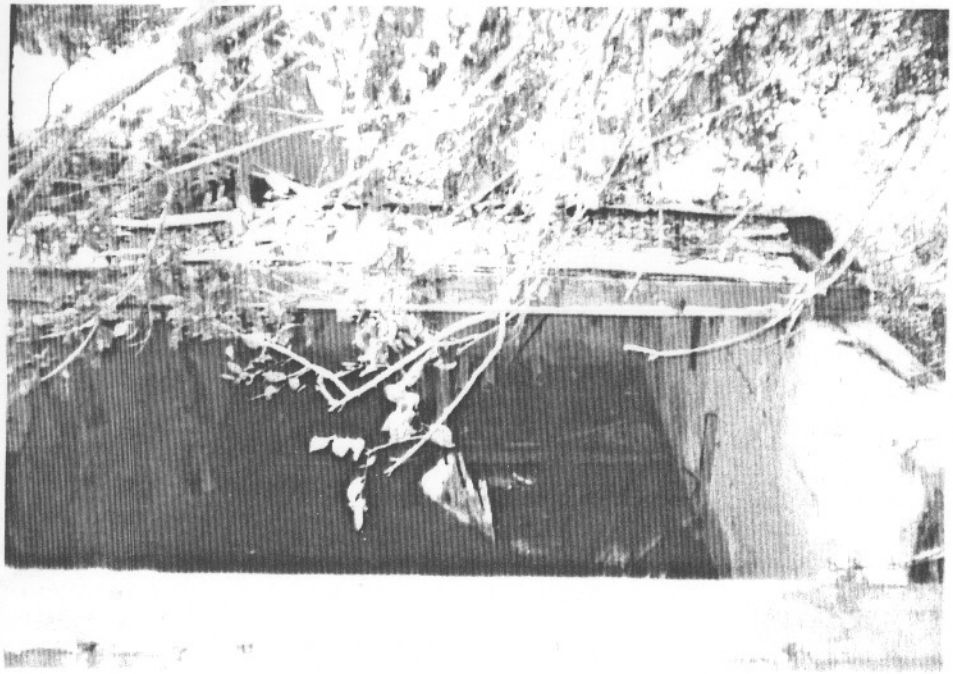


032.gif Interior of South Amplifier Building

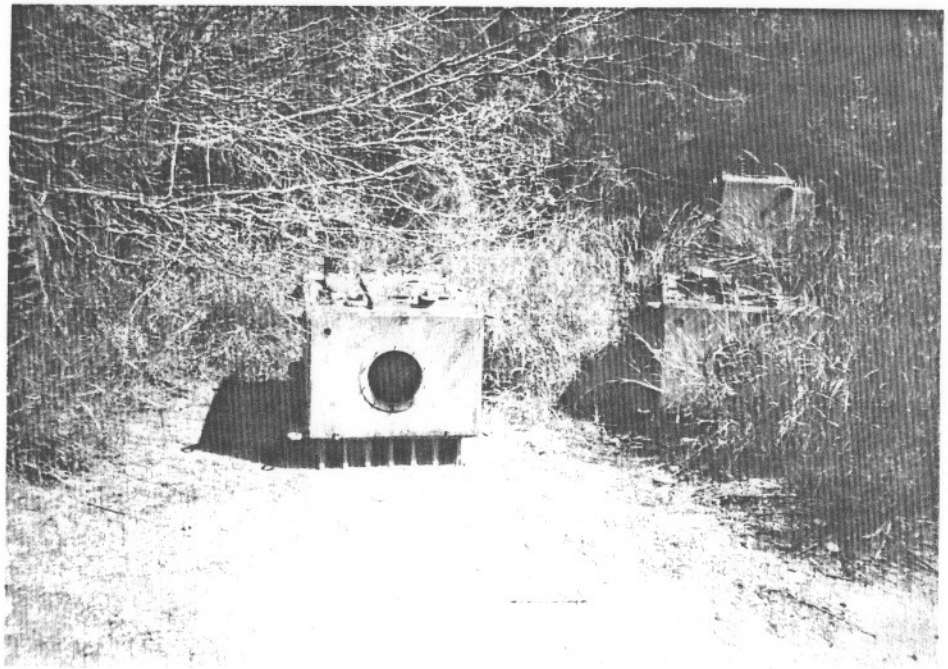
033.gif Concrete pad with attached transformer - South Amplifier Building

034.gif Water tank near pump house - Central Transmitter Building

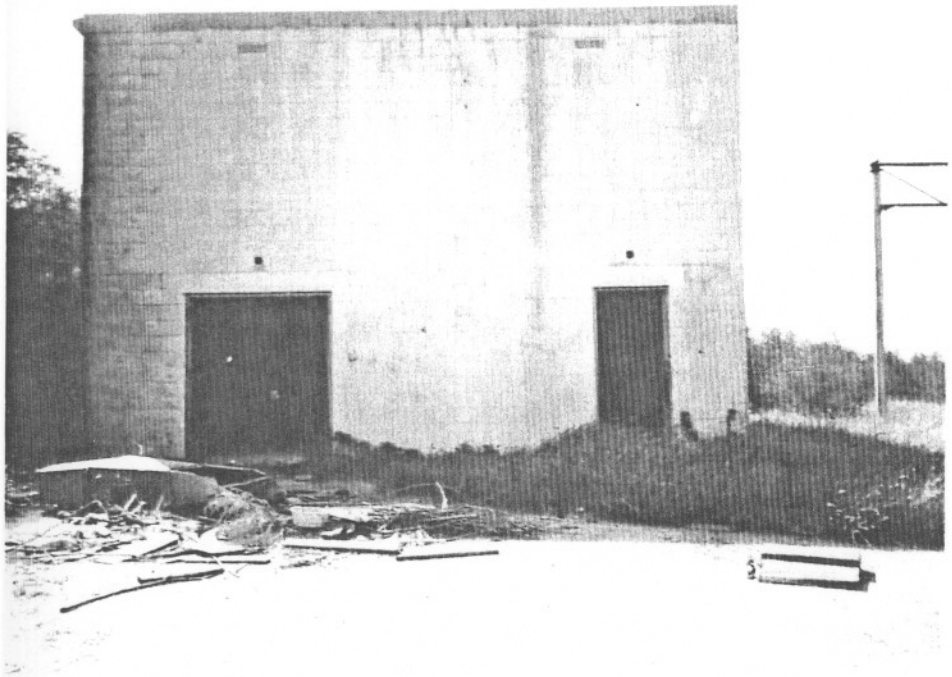
036.gif View inside pump house - Central Transmitter Building



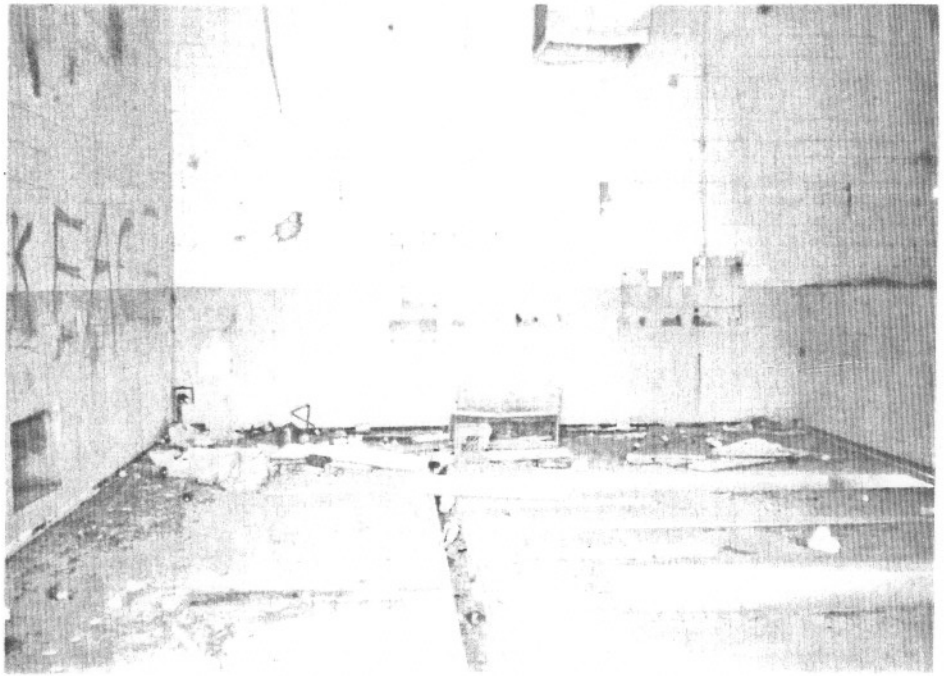
035.gif Open concrete sump - Central Transmitter Building



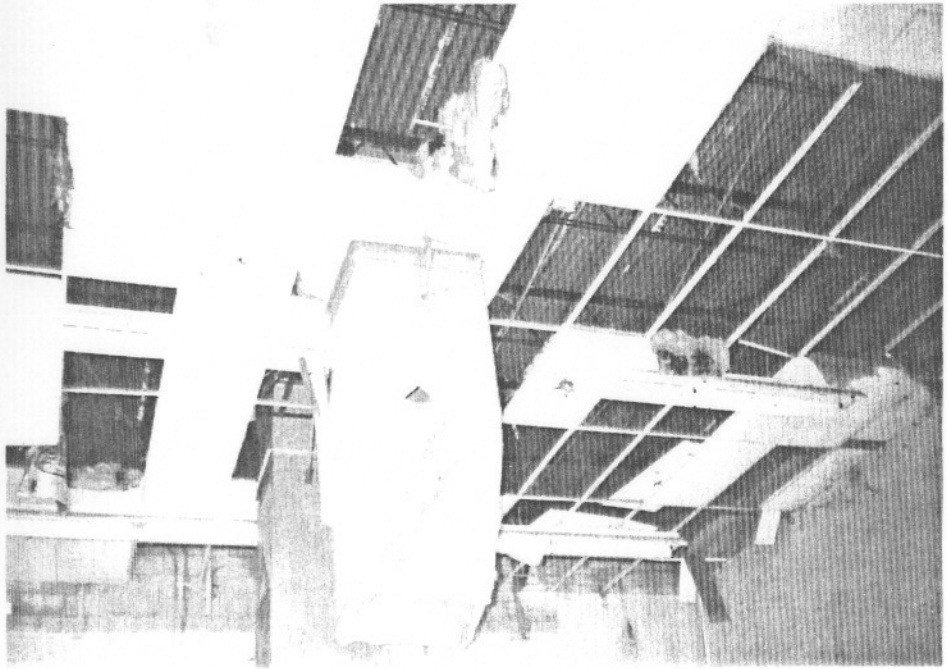
037.gif Transformers at CPL substation site - Central Transmitter Building



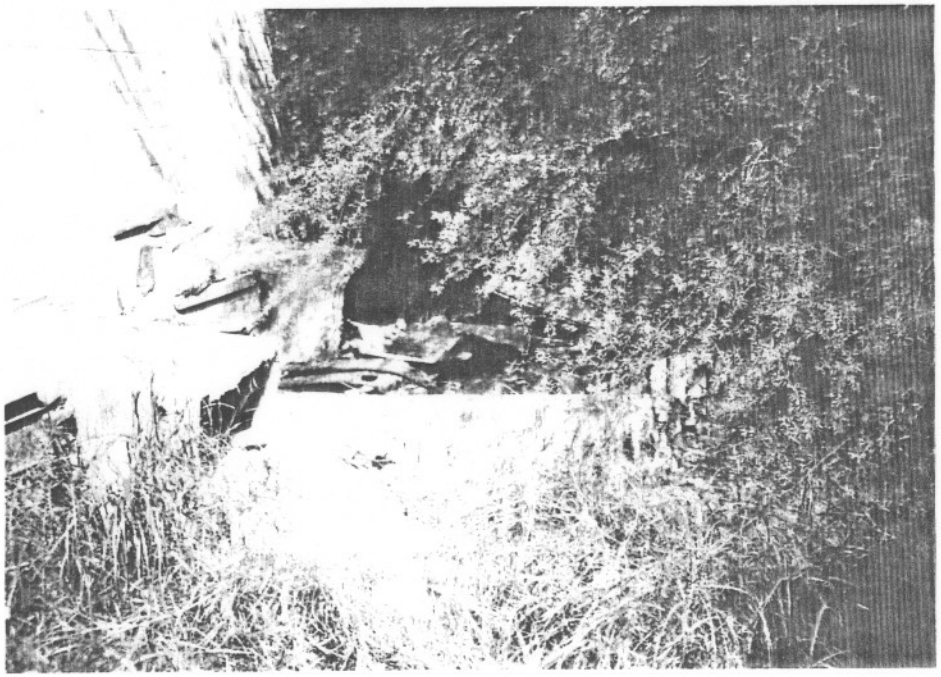
038.gif North Amplifier Building



040.gif Interior of North Amplifier Building

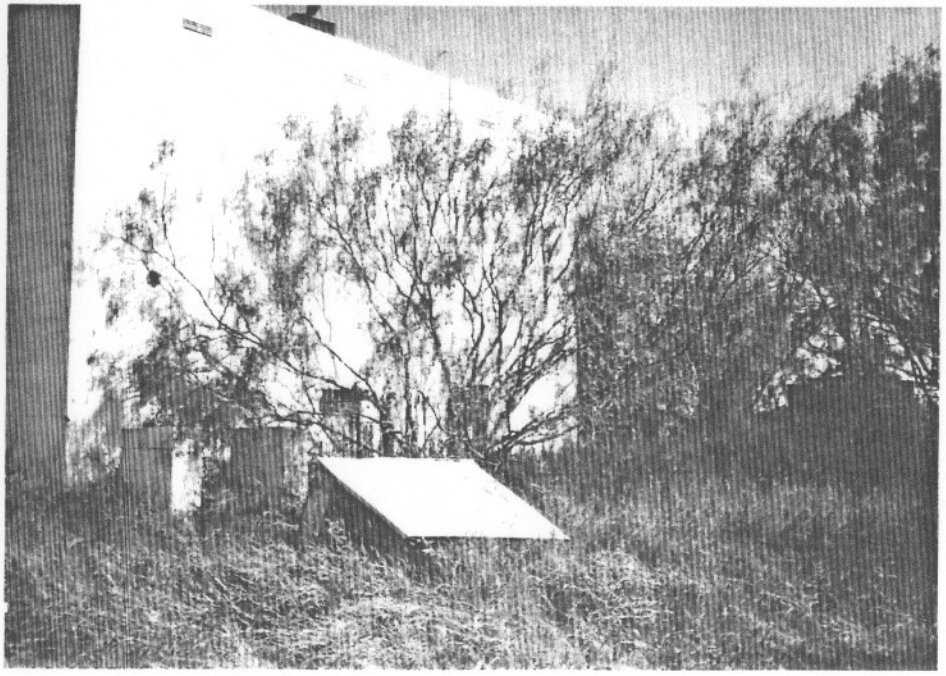


039.gif Ceiling of North Amplifier Building



041.gif A/C pad and metal ducts - east side of North Amplifier Building

042sf Debris at entrance of North Amplifier Building

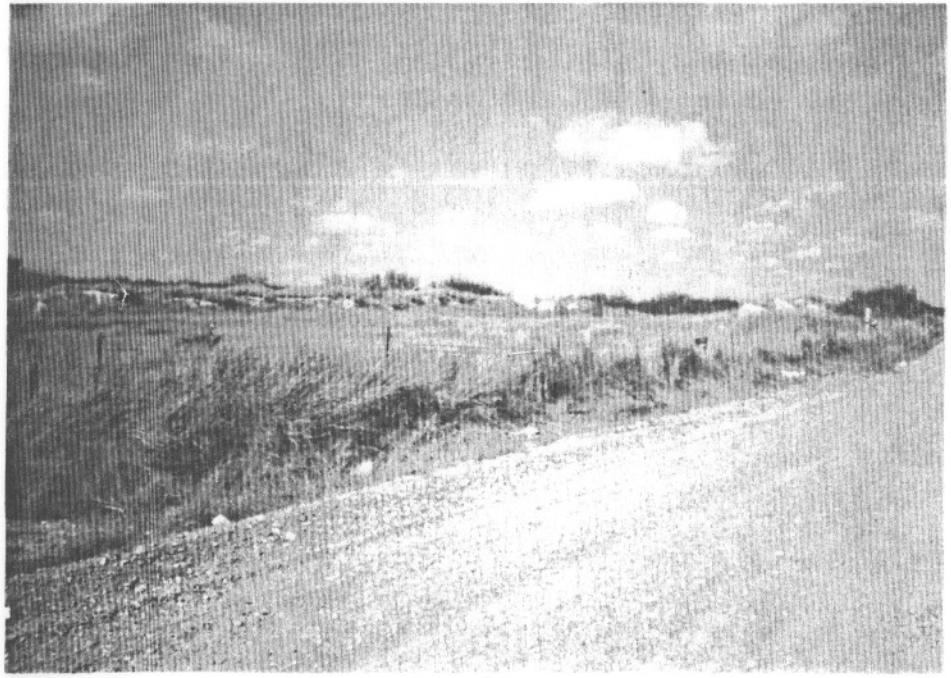


043sf South side of North Amplifier Building (note transformer at extreme right)

044sf Transformer at southeast corner of North Amplifier Building

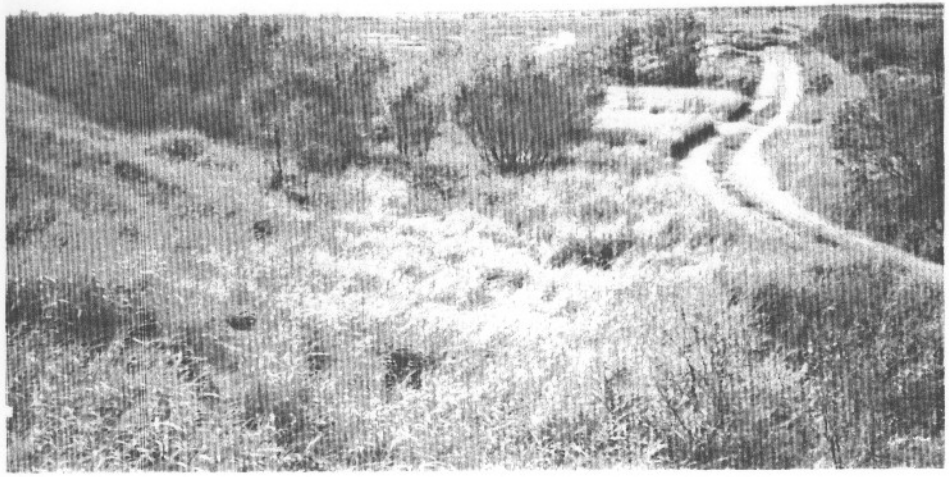
APPENDIX A-2

SITE 2 (GARZA)



045gif View of municipal landfill site from gravel farm road

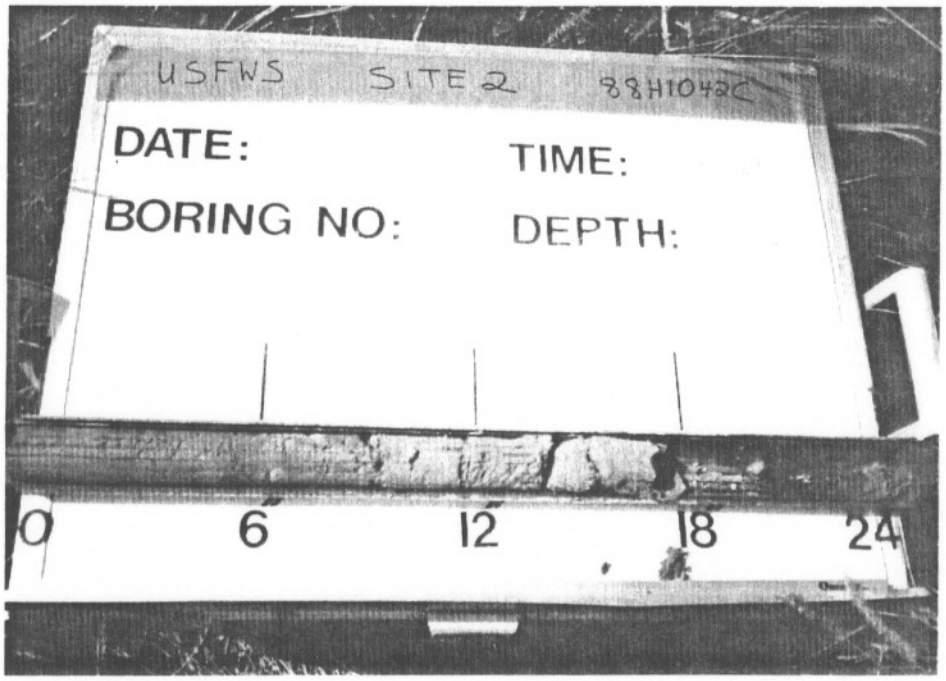
047gif Municipal landfill mounds



046gif Looking southeast from south mound toward air strip

Drilling Soil Boring 5 - municipal landfill

048.gif



049.gif Typical recovery using Shelby Tube - municipal landfill

050.gif Preparing samples for shipment - municipal landfill

APPENDIX A-3

SITE 3 (COTTAM)

051gif Top of primary debris pile (looking west)

052gif Top of primary debris pile (looking east)

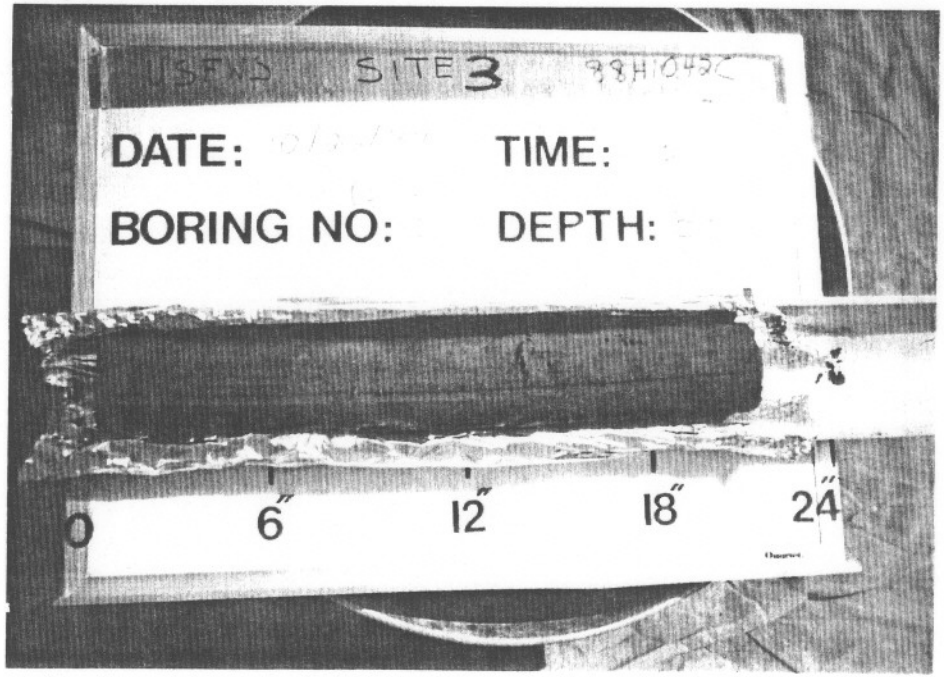
Looking southeast from soil boring location towards sediment sampling locations

053gif

054g.f Roofing shingles at site boundary stake

056g.f Empty radioactive material container at east end of property

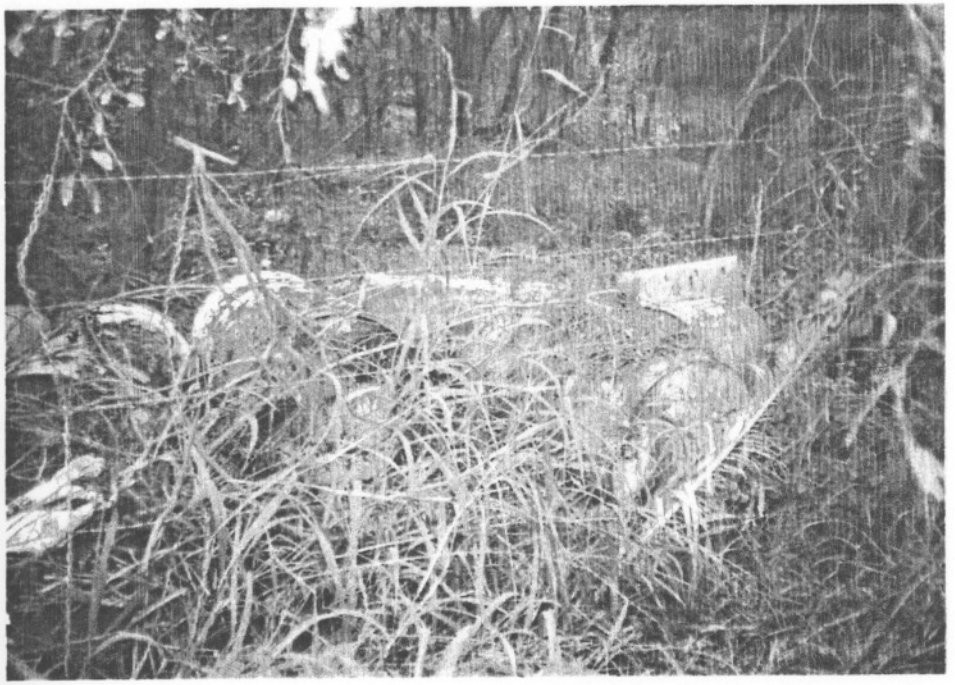
055g.f Trash at top of slope at east end of property



057g.f Representative soil boring recovery

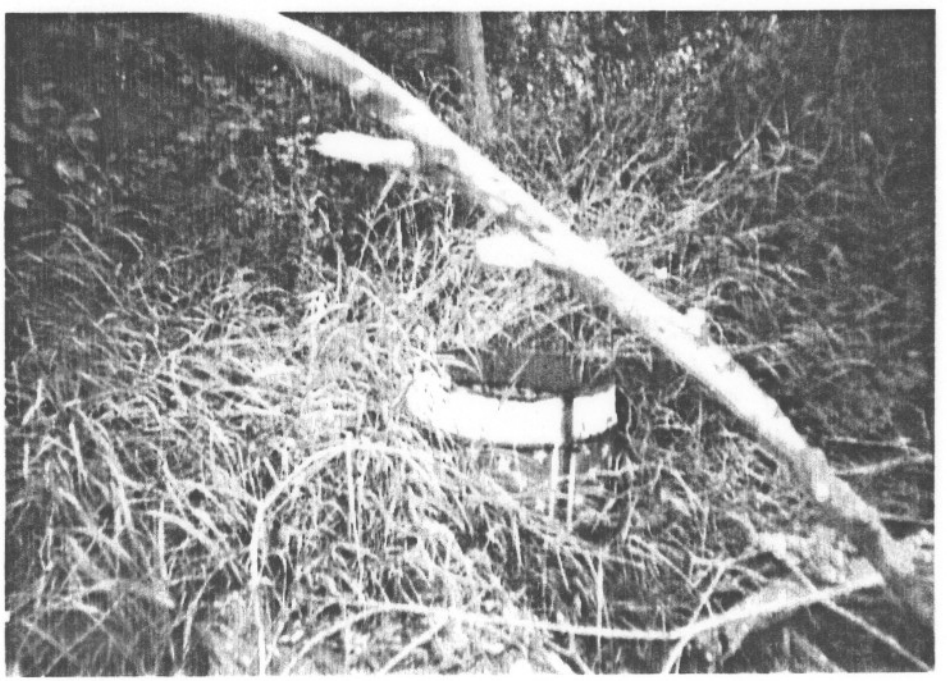
APPENDIX A-4

SITE 4 (MADERO)



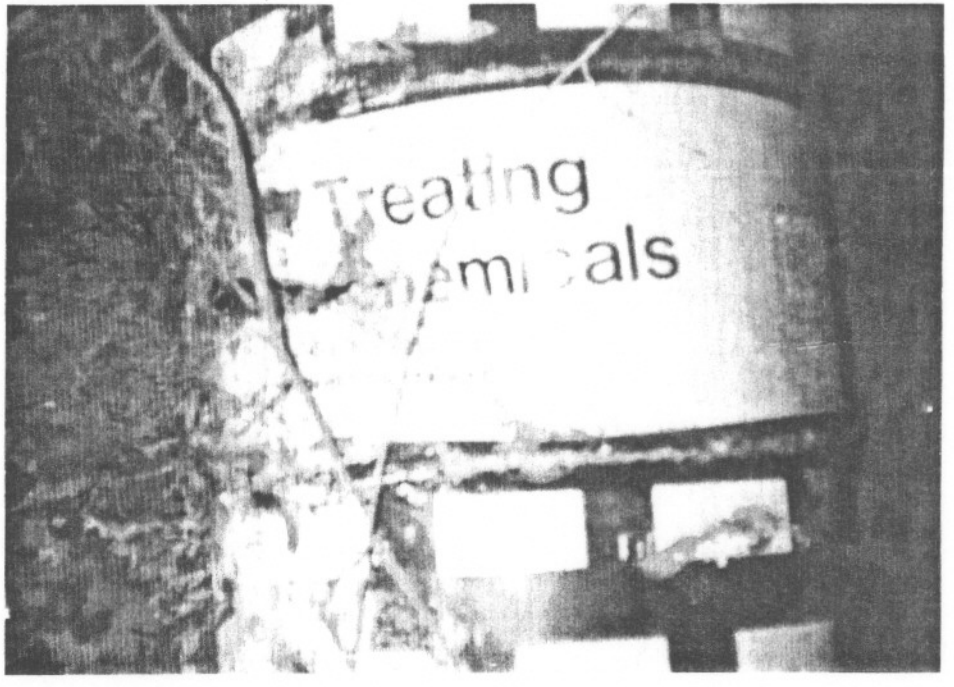
058.gif Main group of drums adjacent to fence

060.gif 3/4 drum north of main group



059.gif 1/2 drum south of main group

061.gif Drums (from left to right) E, B, A
(refer to Figure 5-1)



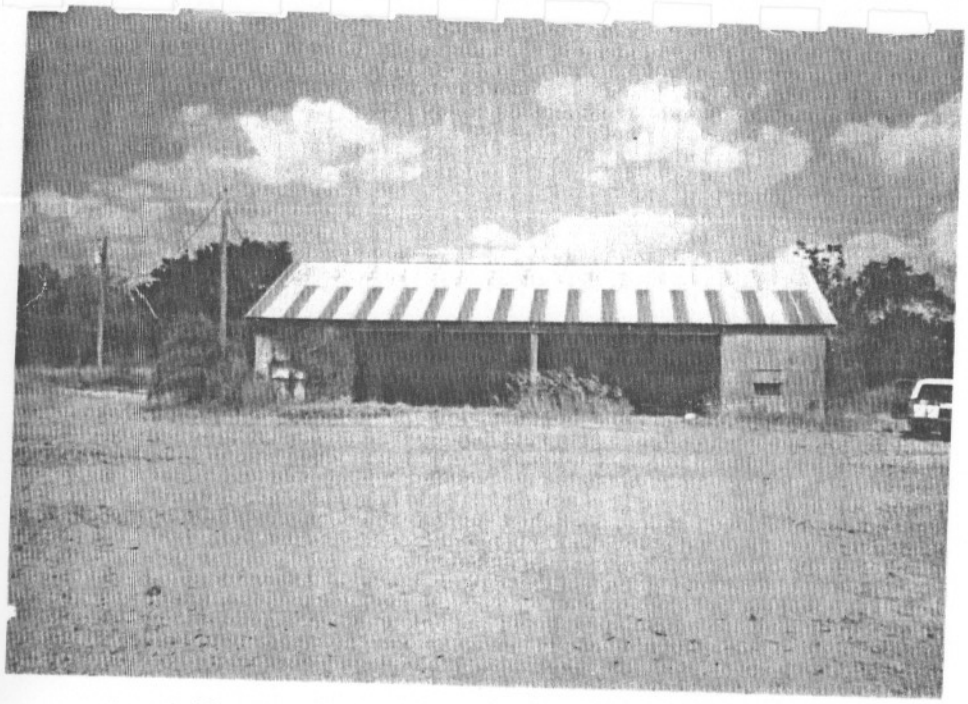
063.gif Drum A (refer to Figure 5-1)

062.gif Drum D (refer to Figure 5-1)

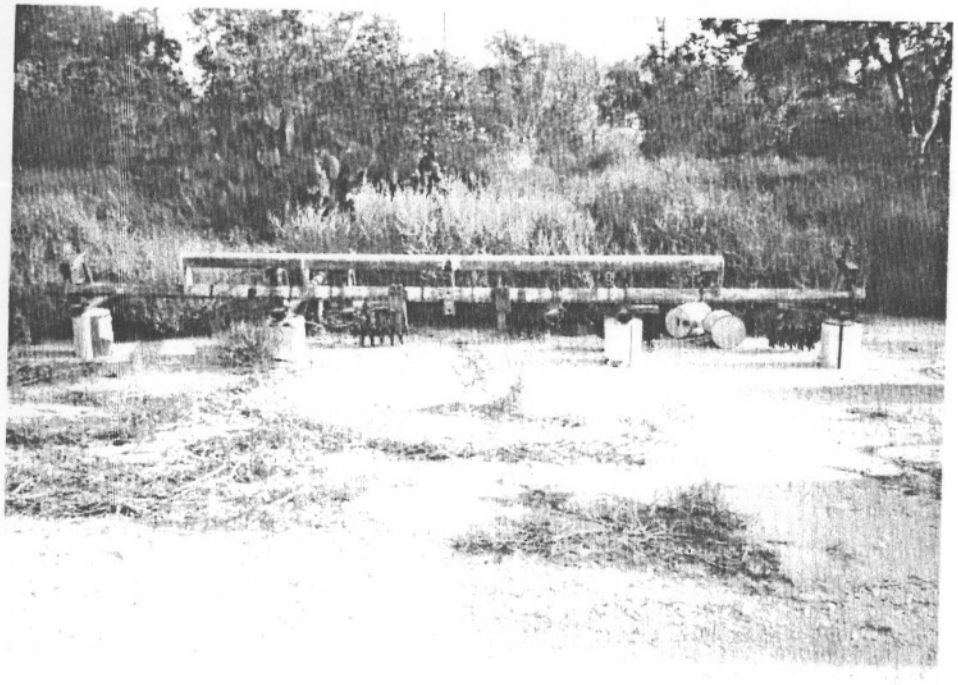
APPENDIX A-5

SITE 5 (HIDALGO)

ENV/USFWS/2630DP

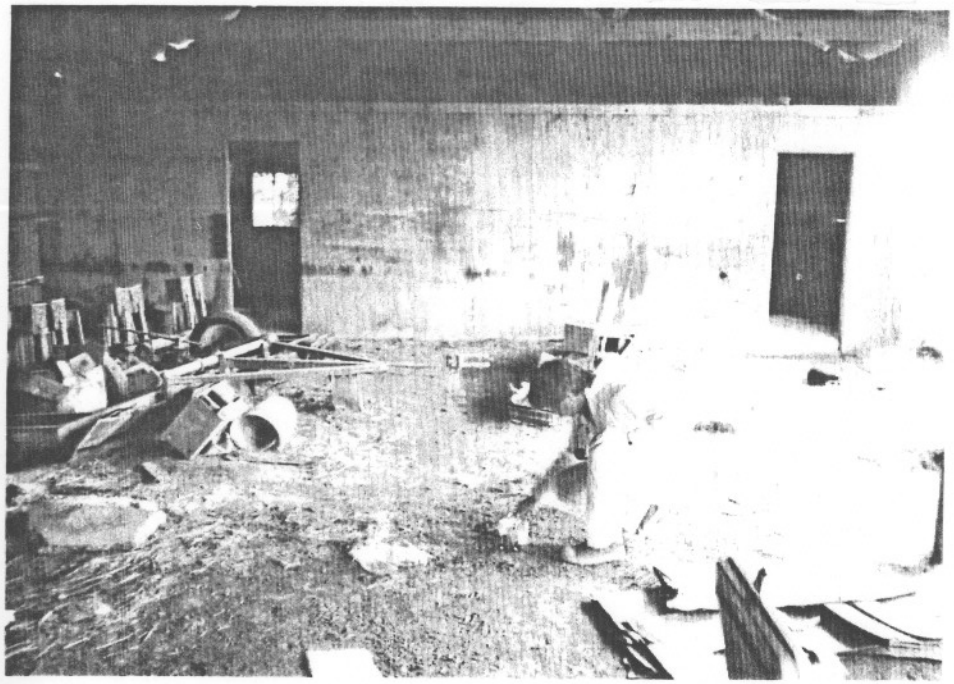


064.gif Former farm headquarters building



065.gif Cultivator elevated on canisters

066.gif Elevated fuel tank

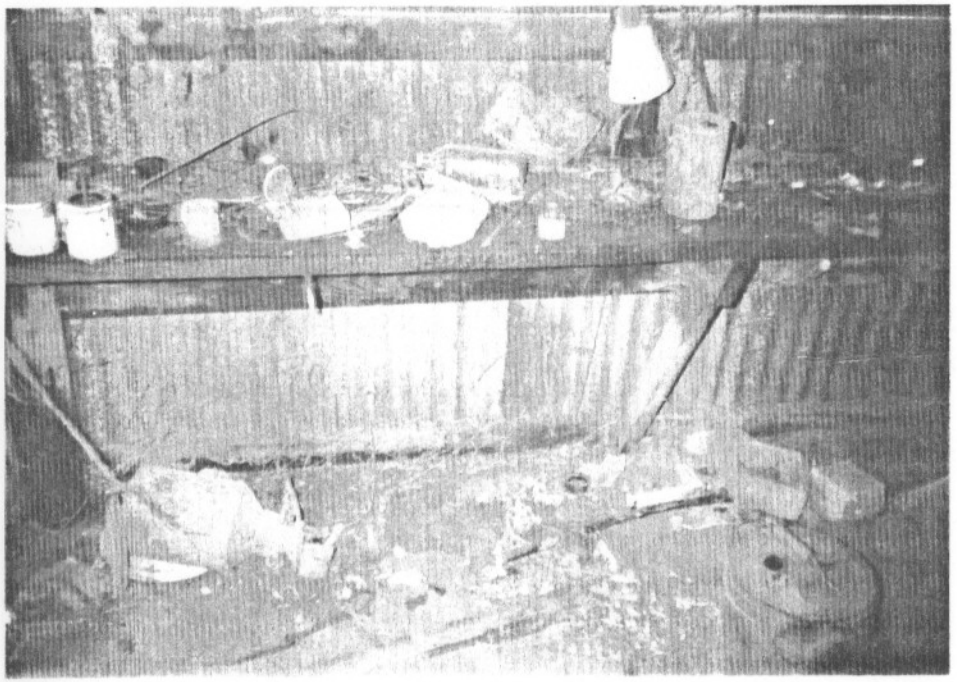


067gif Sampling in main room of headquarters building

068gif Northwest corner of northeast room

Location of sample 5-SS-7 in main room of headquarters building

069gif



070.gif Containers along south wall of west room

072.gif Containers along west wall of west room

071.gif Containers along south wall of west room

073.gif Containers along west wall of west room

APPENDIX B

UNIT RATES FOR CLEANUP SERVICES

ROLLINS ENVIRONMENTAL SERVICES (FS) INC.
RATE SCHEDULE
March, 1988

All additional services and/or billings for consumable materials or expendable items other than those specified will be billed at their invoice price plus 15%.

I. PERSONNEL AND PERSONNEL SUPPORT EQUIPMENT

A. PERSONNEL

	Straight Time Per Hour Rate
Senior Manager	$ 80.00/Hour
Manager	$ 65.00/Hour
Certified Industrial Hygienist	$ 65.00/Hour
Engineer (Chemical or Mechanical)	$ 65.00/Hour
Health and Safety Officer	$ 50.00/Hour
Field Supervisor	$ 50.00/Hour
Equipment Operator	$ 40.00/Hour
Foreman	$ 35.00/Hour
Hazardous Waste Specialist	$ 28.00/Hour
Computer Operator	$ 35.00/Hour
Secretary	$ 18.00/Hour
Clerical	$ 18.00/Hour

Per Diem Charges for lodgings and meals will be quoted per job location.

Straight Time is eight hours per day, weekdays. Overtime at time and a half is charged for weekday hours in excess of eight and all day Saturday, Sunday, and Holidays.

Time is charged portal to portal from Houston, Texas.

B. PERSONNEL TRAILERS

	Rate
Personnel Decontamination Trailer	$ 850.00/Month
Personnel Shower Trailer	$ 100.00/Day 6 Day Minimum
Office Trailer (16 Foot)	$ 190.00/Month
Office Trailer (50 Foot)	$ 593.00/Month
Equipment Trailer	$ 300.00/Month
Laboratory Trailer	$1,214.00/Day 5 Day Minimum
Additional Lab Tech	$ 64.00/Hour

Prices do not include mobilization/demobilization, cleaning, or decontamination charges.

C. PERSONNEL TRANSPORTATION

	Rate
Passenger Automobile	$ 50.00/Day Plus $ 0.15/Mile
1/2 Ton Pick-up Truck	$ 60.00/Day Plus $ 0.17/Mile
3/4 Ton Pick-up Truck	$ 65.00/Day Plus $ 0.17/Mile
1 Ton Pick-up Truck	$ 70.00/Day Plus $ 0.17/Mile

D. PERSONNEL HEALTH AND SAFETY PROTECTIVE EQUIPMENT

Personal Protective Equipment:	Rate
Level A Hazard	$ 250.00/Person/Day
Level B Hazard	$ 180.00/Person/Day
Level C Hazard	$ 60.00/Person/Day
Tank Entry Equipment:	
Tripod/Rescue Winch	$ 71.00/Day
Full Body Harness	$ 29.00/Day
Safety Belt	$ 14.00/Day
Turbine Blower	$ 79.00/Day
Air Mover	$ 21.00/Day
Monitoring Equipment:	
Explosion/Oxygen Meter	$ 35.00/Day
HNU Photoionization Detector	$ 45.00/Day
Personal Air Sampling Pump	$ 35.00/Day Plus Sample Analysis
PCB Field Test Kit	$ 100.00/Day Plus $ 8.00/Sample
General Safety Equipment: First Aid Kit Emergency Oxygen Inhalation System Fire Blanket Portable Eye Wash/Safety Shower Fire Extinguishers, Hoses, Nozzles Stretcher	$ 100.00/Day
Non-Sparking Equipment: Tools Drum Openers Explosion Proof Lighting	$ 100.00/Day

II. SAMPLING AND HANDLING EQUIPMENT

A. SAMPLING EQUIPMENT

	Rate
Survey Instrument Set	$ 50.00/Day
Subsurface Water Grabber	$ 50.00/Day
Large Drum Thief	$ 50.00/Day
Hand Actuated Sludge Sampler	$ 50.00/Day
Pneumatic Sludge Sampler	$ 100.00/Day
Pneumatic Tank Sampler	$ 100.00/Day
Boat with Sampling Port	$ 250.00/Day
24' Pontoon Barge with Winch	$1,500.00/Day

(Prices for barge mobilization/demobilization will be quoted on a per job basis.)

B. DRUM HANDLING EQUIPMENT

	Rate
Drum Clamps	$ 25.00/Day
Drum Cart	$ 25.00/Day
Drum Puller	$ 25.00/Day
Drum Dumper	$ 25.00/Day
Recovery Drum Dumper	$ 25.00/Day
Drum Crusher (Operator and Helper)	$ 80.00/Hour Plus
	$ 1.35/Drum
(Mileage)	$ 2.00/Mile

(Prices for drum crusher mobilization/demobilization will be quoted on a per job basis.)

Hydraulic Drum Grappler	$ 250.00/Day

(Prices for Hydraulic Drum Grappler installation, mobilization/demobilization, and trackhoe will be quoted on a per job basis.)

C. MATERIAL TRANSFER EQUIPMENT

	Rate
Hand Pump	$ 15.00/Day
Electric Chemical Transfer Pump	$ 40.00/Day
Pneumatic Chemical Transfer Pump	$ 40.00/Day
Electric Trash Pump	$ 64.00/Day
Electric Submersible Pump	$ 50.00/Day
2" Double Diaphragm Air Pump	$ 43.00/Day
3" Double Diaphragm Air Pump	$ 54.00/Day
Crisafulli Pump	$ 75.00/Hour
Vacuum/Pressure Chemical Hose	$ 50.00/Day

III. WASTE TRANSPORTATION AND PACKAGING

A. WASTE TRANSPORTATION

	Rate
20 Cu. Yd. Roll-Off Bin	**$ 25.00/Day**
30 Cu. Yd. Roll-Off Bin	**$ 25.00/Day**

(Disposal, transportation, pick-up/delivery, and specialty liners quoted on a per job basis.)

Standard Vacuum Truck	**$ 70.00/Hour**
Super Vacuum Truck	**$ 157.00/Hour**
Flat Bed Truck	**$ 70.00/Hour**
Low Boy Truck	**$ 70.00/Hour**
14 CYD Dump Truck	**$ 60.00/Hour**
20 CYD Combination Dump Truck	**$ 70.00/Hour**

Plus mileage quoted on a per job basis.

Prices for other waste transportation will be quoted on a per job basis.

Prices do not include mobilization/demobilization, cleaning, or decontamination.

B. WASTE PACKAGING

		Rate
Steel Drums:		
8 Gallon DOT 37A		**$ 12.00/Each**
30 Gallon DOT 17E		**$ 27.00/Each**
55 Gallon DOT 17E		**$ 50.00/Each**
55 Gallon DOT 17H		**$ 45.00/Each**
85 Gallon Salvage Drum:	1-9	**$ 169.00/Each**
	10-24	**$ 152.00/Each**
	25-48	**$ 136.00/Each**
Fiber Drums:		
10 Gallon DOT 21C		**$ 9.00/Each**
20 Gallon DOT 21C		**$ 16.50/Each**
30 Gallon DOT 21C		**$ 18.75/Each**

Discount for truck-load quantities.

Prices do not include special liners.

IV. CONSTRUCTION EQUIPMENT

	Rate
Bobcat	$ 200.00/Day
450 Dozer	$ 350.00/Day
D6 Dozer	$ 600.00/Day
D7LP Dozer	$ 700.00/Day
225 Excavator	$ 900.00/Day
235 Excavator	$1,425.00/Day
580 Excavator	$ 450.00/Day
690 Excavator	$ 450.00/Day
8 Ton Compactor	$ 200.00/Day
25 Ton Vibrator Compactor	$ 350.00/Day
Cherry Picker	$ 450.00/Day
15 Ton Crane	$ 100.00/Hour
45 Ton Crane	$ 150.00/Hour
65 Ton Crane	$ 175.00/Hour
3 Ton Rough Terrain Forklift	$ 250.00/Day
4 Ton Rough Terrain Forklift	$ 325.00/Day
Scaffold (Per Basis Unit with Guardrail)	$ 36.00/Month

Prices do not include operator, mobilization/demobilization, delivery, or fuel.

V. CLEANING AND WASHING EQUIPMENT

	Rate
Pressure Washer 1500 psi	$ 79.00/Day
Pressure Washer 2400 psi	$ 93.00/Day
Pressure Washer 3000 psi	$ 100.00/Day
Hydroblaster	$ 150.00/Day
Tank Orbi-Jet System	$ 450.00/Day
Roto-Jet System	$ 450.00/Day
Steam Cleaner	$ 110.00/Day
Sandblaster 300 lb. w/Compressor	$ 186.00/Day
Airless Sprayer	$ 100.00/Day
Concrete Planner	$ 100.00/Day
Hog 200 Air Filtration System	$ 100.00/Day
HEPA Air Filtration System	$ 300.00/Day
3 Micron Water Filtration System	$ 50.00/Day
HEPA Vacuum Cleaner	$ 100.00/Day
Barrel Vacuum Cleaner	$ 30.00/Day
Wet/Dry Vacuum Cleaner	$ 20.00/Day

Prices do not include mobilization/demobilization, fuel, or applicable air compressors, supplies, and tooling.

VI. TOOLS

	Rate
Tool Set Including: Hand Tools Electric Saw Electric Drill Electrical Cords Grinder Battery Charger Chain Saw	**$ 100.00/Day**
Plasma Arc Cutting Unit	**$ 100.00/Day**
225 Amp Welding Set	**$ 64.00/Day**
Burning & Cutting Torch Set	**$ 25.00/Day**
Electric Jackhammer	**$ 64.00/Day**
Pneumatic Jackhammer, Complete	**$ 107.00/Day**

Prices do not include applicable fuel, gasses, air compressors, supplies, or tooling.

VII. SUPPLIES

	Rate
Absorbent Pads, 18x18	$ 107.00/Package
Absorbent Pads, 36x36	$ 200.00/Package
Barricade Tape (1000')	$ 30.00/Roll
Boots, Polyethylene	$ 19.00/Package
Boots, PVC	$ 9.00/Pair
Boots, Butyl	$ 49.00/Pair
Breathing Air	$ 14.00/Tank
Cotton Rags	$ 83.00/Bale
Coveralls, Tyvek	$ 8.00/Each
Coveralls, Polylaminated Tyvek	$ 13.00/Each
Coveralls, Saranex Tyvek	$ 25.00/Each
Coveralls, OSHA Response	$ 43.00/Each
Coveralls, Emergency Response	$ 100.00/Each
Drum Deheader	$ 81.00/Each
Duct Tape	$ 9.00/Roll
Face Shields	$ 7.00/Each
Flashlight, Explosion Proof	$ 10.00/Each
Gloves, Cotton	$ 18.00/Each
Gloves, Polyethylene	$ 11.00/Box
Gloves, Leather	$ 6.00/Pair
Gloves, Shoulder Length Rubber	$ 11.00/Pair
Gloves, Nitrile	$ 11.00/Pair
Glove Cuff Sealer	$ 80.00/Box
Glove Bag	$ 21.00/Each
Glove Bag, Sealing Tape	$ 6.00/Roll
Harness, Body Rig	$ 95.00/Each
Harness, Lanyard	$ 31.00/Each
Mop Heads	$ 5.00/Each
Plastic (100'x20')	$ 86.00/Roll
Plastic (100'x12')	$ 46.00/Roll
Sample Bottles	$ 2.00/Each
Trailer Liners	$ 62.00/Each
Vermiculite	$ 16.00/Bag
Wipes	$ 22.00/Case

APPENDIX C

ASBESTOS REGULATIONS

mortgages insured on or after April 27, 1987.

* * * * *

PART 235—MORTGAGE INSURANCE AND ASSISTANCE PAYMENTS FOR HOME OWNERSHIP AND PROJECT REHABILITATION

3. The authority citation for 24 CFR Part 235 continues to read as follows:

Authority: Sections 211, 235, National Housing Act, (12 U.S.C. 1715b, 1715z); Section 7(d), Department of Housing and Urban Development Act, (42 U.S.C. 3535(d)).

4. In § 235.9, paragraph (a) is revised to read as follows:

§ 235.9 Maximum interest rate.

(a) The mortgage shall bear interest at the rate agreed upon by the mortgagee and the mortgagor, which rate shall not exceed 9.50 percent per annum with respect to mortgages insured on or after April 27, 1987

* * * * *

5. In § 235.540, paragraph (a) is revised to read as follows:

§ 235.540 Maximum interest rate.

(a) The mortgage shall bear interest at the rate agreed on by the mortgagee and the mortgagor, which rate shall not exceed 9.50 percent per annum with respect to mortgages insured after April 27, 1987.

* * * * *

Dated: April 30, 1987.

Thomas T. Demery,

Assistant Secretary for Housing—Federal Housing Commissioner.

[FR Doc. 87-10736 Filed 5-11-87; 8:45 am]

BILLING CODE 4210-27-M

DEPARTMENT OF JUSTICE

28 CFR Part 17

[Order No. 1187-87]

Membership of the Department Review Committee

AGENCY: Department of Justice.

ACTION: Final rule.

SUMMARY: This Order revises Part 17 of Title 28, Code of Federal Regulations, to change the security regulations of the Department of Justice for the purpose of providing a Civil Division representative to the Department Review Committee.

EFFECTIVE DATE: April 24, 1987.

FOR FURTHER INFORMATION CONTACT: D. Jerry Rubino, Department Security Officer, Department of Justice, Washington, DC 20530 (202) (633-2094). This is not a toll-free number.

SUPPLEMENTARY INFORMATION: This regulation is exempt from the requirements of Executive Order 12291 as a regulation related to agency organization and management. Furthermore, this regulation will not have a significant impact on a substantial number of small entities because its effect is internal to the Department of Justice and is therefore exempt from the Regulatory Flexibility Act.

List of Subjects in 28 CFR Part 17

Classified information, Foreign relations.

By virtue of the authority vested in me by E.O. 12356, 5 U.S.C. 301 and 28 U.S.C. 509, 510, § 17.135 of Part 17 of Title 28, Code of Federal Regulations is revised as set forth below.

PART 17—[AMENDED]

1. The authority citatation for Part 17 is revised to read as follows:

Authority: 5 U.S.C. 301; 28 U.S.C. 509, 510; E.O. 12356.

§ 17.135 [Amended]

2. Section 17.135 is amended by redesignating paragraphs (b) (4), (5), and (6) as paragraphs (b) (5), (6), and (7), and by adding a new paragraph (b)(4) to read as follows:

* * * * *

(b) * * *

(4) Civil Division

* * * * *

Dated: April 24, 1987.

Edwin Meese III,

Attorney General.

[FR Doc. 87-10756 Filed 5-11-87; 8:45 am]

BILLING CODE 4410-01-M

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Parts 1910 and 1926

Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Corrections and Information Collection Requirements Approval

AGENCY: Occupational Safety and Health Administration, Labor.

ACTION: Final rules; corrections, technical amendments and information collection requirements approval.

SUMMARY: This document makes corrections to the preamble of the final rules for Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite which appeared in the Federal Register on June 20, 1986 (51 FR 22612) and technical amendments to 29 CFR Parts 1910 and 1926.

EFFECTIVE DATES: May 12, 1987. 29 CFR 1910.1001 (d)(2), (d)(3), (d)(5), (d)(7), (f)(2), (g)(3)(i), (j)(5), (l), and (m) became effective on October 2, 1986. 29 CFR 1926.58 (f)(2), (f)(3), (f)(6), (h)(3)(i), (k)(3), (k)(4), (m), and (n) became effective on November 14, 1986.

FOR FURTHER INFORMATION CONTACT: Mr. James F. Foster, OSHA Office of Information and Consumer Affairs, Room N3637, U.S. Department of Labor, 200 Constitution Avenue NW., Washington, DC 20210, Telephone (202) 523-8148.

SUPPLEMENTARY INFORMATION: On June 20, 1986 (51 FR 22612) OSHA published a document titled "Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules". At the time of publication the information collection requirements of those rules had not been approved by the Office of Management and Budget under the Paperwork Reduction Act of 1980, 44 U.S.C. 3501, et seq.

On October 2, 1986, the Office of Management and Budget approved the information collection requirements for 29 CFR 1910.1001 and has assigned them Control No. 1218-0133. Accordingly, the information collection requirements of the asbestos, tremolite, anthophyllite, and actinolite final rule (§ 1910.1001) published June 20, 1986 became effective on October 2, 1986.

On November 14, 1986, the Office of Management and Budget approved the information collection requirements for 29 CFR 1926.58 and has assigned them Control No. 1218-0134. Accordingly, the information collection requirements of the construction industry standard for asbestos, tremolite, anthophyllite, and actinolite (§ 1926.58) published June 20, 1986 became effective on November 14, 1986.

There were a number of typographic errors in the June 20, 1986 document preamble as well as in the codified standards 29 CFR 1910.1001 and 29 CFR 1926.58. This document amends and corrects all the substantive and typographic errors in the regulatory text and those in the preamble where correction is needed to make the meaning clearer.

One of the amendments being made is to the respirator selection tables codified at 29 CFR 1910.1001, Table 1, and § 1926.58, Table D-4. These tables are being amended by adding the phrase "other than a disposable respirator" to the description of the class of respirator allowed to be worn in airborne

concentrations not in excess of 2 f/cc. While this explicit prohibition on the use of disposable respirators was not included in the regulatory text issued on June 20, 1986.

OSHA intended to prohibit their use. OSHA indicated in the preamble to the standards that disposable respirators were not allowed (51 FR 22718), and had stated in the appendices to the standards that "disposable respirators or dust masks are not permitted to be used for asbestos, tremolite, anthophyllite and actinolite work." (App. G. (III)A, 51 FR 22734, App. H. (III)A, 51 FR 22788).

OSHA omitted the clarifying phrase, "other than a disposable respirator," from the tables because the purpose of the respirator selection tables is primarily to state which respirators are permitted in specific air concentrations, not to list explicitly those which are not allowed. As explained above, the Federal Register document, read as a whole, clearly indicated OSHA's decision to prohibit disposable respirators. However, to ensure that the respirator selection tables, when read alone, are clear, they are being amended to specifically state that disposable respirators are not permitted. Since these technical amendments do not substantively change the requirements of the standards, they were made effective immediately and without opportunity for advance notice and comment which OSHA finds "unnecessary and impracticable" within the meaning of 5 U.S.C. 553(b).

PART 1910—[CORRECTED]

PART 1926—[CORRECTED]

Accordingly, the preamble to FR Doc. 86–13674 published in 51 FR 22612–22790, June 20, 1986, is corrected to read as follows:

Corrections to the preamble:

1. On page 22629, column 1, line 5, "[Platek et al., Ex. 84–240]" is corrected to read "[Platek et al., Ex. 84–230]".

2. On page 22631, column 1, last paragraph, line 12, "or" is corrected to read "of".

3. On page 22651, Table 7, line entry for A/C pipe under column 5, "0.01–1.21" is corrected to read "0.01–1.81".

4. On page 22655, Table 12, line entry for total under column 2, "764.228" is corrected to read "746.228".

5. On page 22666, column 1, Table 24, is corrected to read:

Industry	Total cancer deaths
Primary Manufacturing:	
A/C Pipe	0.06
A/C Sheet	0.14
Friction Materials	3.39
Textiles	0.16
Floor Tile	<0.01
Gaskets and Packings	0.12
Paper	0.04
Coatings and Sealants	0.39
Plastics	0.09
Secondary Manufacturing:	
A/C Sheet	0.16
Friction Materials	0.48
Gaskets and Packings	0.70
Textiles	0.11
Plastics	0.17
Automotive Remanufacturing	0.74
Services:	
Automotive Repair	30.15
Ship Repair	4.28
Construction:	
New Construction	0.36
Asbestos Abatement	0.66
Demolition	0.23
Building Renovation	22.15
Routine Maintenance in Commercial and Residential Buildings	9.80
Routine Maintenance in General Industry	0.34
Total	74.72

Source: U.S. Department of Labor, OSHA, Office of Regulatory Analysis.

6. On page 22666, column 2, Table 25, is corrected to read:

Industry	Total cancer deaths avoided
Primary Manufacturing:	
A/C Pipe	0.07
A/C Sheet	0.16
Friction Matenals	4.00
Textiles	0.18
Floor Tile	0.02
Gaskets and Packings	0.13
Paper	0.06
Coatings and Sealants	0.48
Plastics	0.11
Secondary Manufacturing:	
A/C Sheet	0.18
Friction Matenals	0.65
Gaskets and Packings	0.88
Textiles	0.12
Plastics	0.29
Automotive Remanufacturing	0.90
Services:	
Automotrve Repair	39.25
Ship Repair	4.61
Construction:	
New Construction	0.61
Asbestos Abatement	0.76
Demolition	0.23
Building Renovation	22.49
Routine Maintenance in Commercial and Residential Buildings	11.23
Routine Maintenance in General Industry	0.39
Total	87.80

Source: U.S. Department of Labor, OSHA, Office of Regulatory Analysis.

7. On page 22668, Table 27, line entry for A/C sheet under column 2, "1,260.6" is corrected to read "1,260.0".

8. On page 22668, Table 28, line entry for ship repair under column 2, "3918.5" is corrected to read "3.919".

9. On page 22676, column 2, second complete paragraph, lines 16 and 17, delete "disposable protective clothing".

10. On page 22685, column 3, line 1, "50 mm—long cowl extension" is corrected to read "50 mm electrically conductive extension cowl".

11. On Page 22685, column 3, lines 5 and 6, "1pm" signifying liters per minute, is corrected to read "lpm".

12. On page 22686, column 1, third paragraph, lines 4 and 5, "50 mm extension cowl" is corrected to read "50mm electrically conductive extension cowl".

13. On page 22686, column 1, fourth paragraph, lines 4, 7, 10 and 18, "1pm" signifying liters per minute is corrected to read "lpm".

14. On page 22688, column 2, line 25, "importane" is corrected to read "importance".

15. On page 22702, column 3, line 17, "felf" is corrected to read "felt".

16. On page 22706, column 2, second complete paragraph, lines 13 and 14, "[e.g., paragraphs (e)(6), (i)(4), and (j)(1)(i)" is corrected to read "[e.g., paragraphs (e)(6), (j)(1)(i), and (j)(2)(i)]".

17. On page 22706, column 3, second complete paragraph, the last sentence is corrected to read "These employers are also required to ensure that these employees observe strict decontamination procedures before they leave the worksite".

18. On page 22713, column 3, line 8 from bottom of page, "quarterly" is corrected to read "semi-annual".

19. On page 22715, column 2, line 12, "paragraph (g)(l)(i)" is corrected to read "paragraph (g)(1)(i)".

20. On page 22715, column 2, line 18, "Paragraph (g)(l)(i)(G)" is corrected to read "Paragraph (g)(1)(i)(G)".

21. On page 22715, column 2, second complete paragraph, line 1, "paragraph

(g)(l)(ii)" is corrected to read "paragraph (g)(1)(ii)".

22. On page 22717, column 1, line 13, "paragarph" is corrected to read "paragraph".

23. On page 22717, column 1, second complete paragraph, lines 2 and 3, "Respiratory Protection" is corrected to read "respiratory protection".

24. On page 22721, column 1, first complete paragraph, line 1, "Primary" is corrected to read "primary".

25. On page 22725, column 3, line 14, "paragraph (1)(i)" is corrected to read "paragraph (l)(1)".

26. On page 22725, column 3, second complete paragraph, line 2, "paragraph (1)(2)" is corrected to read "paragraph (l)(2)".

27. On page 22726, column 1, line 5, "paragraph (1)(2)" is corrected to read "paragraph (l)(2)".

28. On page 22726, column 2, line 18, "appropriations" is corrected to read "appropriateness".

29. On page 22726, column 3, first complete paragraph, line 1, "Paragraph (m)(l)(i)" is corrected to read "Paragraph (m)(1)(i)".

30. On page 22730, column 3, third complete paragraph, lines 1 through 5, are corrected to read "The time period required for retention of exposure records is 30 years and for medical records, duration of employment plus 30 years. These retention periods are consistent with those in the OSHA records access rule § 1910.20 (m)(1)(iii) and (m)(2)(iii)".

Accordingly, Parts 1910 and 1926 are amended as set forth below:

PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

1. The authority citation for Part 1910 continues to read as follows:

Authority: Secs. 4, 6, and 8 of the Occupational Safety and Health Act, 29 U.S.C. 653, 655, 657; Walsh-Healey Act, 41 U.S.C. 35 et seq.; Service Contract Act of 1965, 41 U.S.C. 351 et seq.; Pub. L. 91-54, 40 U.S.C. 333; Pub. L. 85-742, 33 U.S.C. 941; National Foundation on Arts and Humanities Act, 20 U.S.C. 951 et seq.; Secretary of Labor's Orders 12-71 (36 FR 8754), 8-76 (41 FR 25059), or 9-83 (48 FR 35736); and 29 CFR Part 1911.

2. 29 CFR 1910.1001 is amended as follows:

a. In paragraph (g)(2)(ii)(B), Table 1, the first entry in the right hand column which reads, "Half-mask air-purifying respirator equipped with high-efficiency filters.", is revised to read "Half-mask air-purifying respirator, other than a disposable respirator, equipped with high-efficiency filters.".

b. In paragraph (j)(5)(i), the language following the last comma is revised to read "or a combination of these minerals at or above the action level and ensure their participation in the program.".

c. In paragraph (j)(5)(iii)(G), "paragraph (1)" is revised to read "paragraph (l)".

d. In paragraph (j)(5)(iii)(H), "A review" is revised to read "The content".

e. In paragraph (o)(2)(vi), "paragraph (1)" is revised to read "paragraph (l)".

Appendix A to § 1910.1001—[Amended]

f. In Appendix A, in the first paragraph, "paragraph (f)" is revised to read "paragraph (d)".

g. In Appendix A, under "*Sampling and Analytical Procedure*", item 2., "50-mm extension cowl" is revised to read "50-mm electrically conductive extension cowl".

h. In Appendix A, under "*Sampling and Analytical Procedure*", item 13.b., "Count all particles as asbestos, tremolite," is revised to read "In the absence of other information, count all particles as asbestos, tremolite,".

Appendix B to § 1910.1001—[Amended]

i. In Appendix B, under "*Asbestos, Tremolite, Anthophyllite, and Actinolite Sampling and Analysis Method*", in the "Flow rate" paragraph, "l/min" signifying liters per minute, is revised to read "L/min", the four times it appears.

j. In Appendix B, under "*Asbestos, Tremolite, Anthophyllite, and Actinolite Sampling and Analysis Method*", in the "Equipment" section, item 1., "50-mm extension cowl" is revised to read "50-mm electrically conductive extension cowl".

k. In Appendix B, under "*Sampling*", item 4., the left side of the equation "t_{min}" is revised to read "$t_{minimum}$".

l. In Appendix B, under "*Sampling*", in the *Note*, "sampler" is revised to read "sample".

m. In Appendix B, under "*Calculations*", item 21., the equation is revised to read:

$$E = \frac{(F/n_f)-(B/n_b)}{A_f} \quad \text{fibers/mm}^2$$

where:
n_f = number of fields in submission sample
n_b = number of fields in blank sample

Appendix C to § 1910.1001—[Amended]

n. In Appendix C, under "I. *Isoamyl Acetate Protocol*", item I.C.15., remove the last two sentences.

o. In Appendix C, under "II. *Saccharin Solution Aerosol Protocol*", item II.C.10.v., "loudly" is revised to read "aloud".

p. In Appendix C, under "II. *Saccharin Solution Areosol Protocol*", item II.C.14., "IAA" is revised to read "saccharin solution aerosol".

q. In Appendix C, under "III. *Irritant Fume Protocol*", item III.A., "combination of high-efficiency and acid-gas cartridges" is revised to read "high-efficiency cartridge".

r. In Appendix C, under "III. *Irritant Fume Protocol*", item III.B.8.v., "Reading it" is revised to read "Repeating it after the test conductor (keeping eyes closed)".

s. In Appendix C, under "III. *Irritant Fume Protocol*", item III.B.12., "IAA" is revised to read "irritant fume".

t. In Appendix C, under "III. *Irritant Fume Protocol*", item III.C.3.c., "particular" is revised to read "particulate".

u. In Appendix C, under "III. *Irritant Fume Protocol*", item III.C.4.a., "Norton" is revised to read "North".

v. In Appendix C, under "III. *Irritant Fume Protocol*", item III.C.5.e., is revised to read "*Reading (R).* The test subject (keeping eyes closed) shall repeat after the test conductor the 'rainbow passage' at the end of this section. The subject shall talk slowly and aloud so as to be heard clearly by the test conductor or monitor.".

w. In Appendix C, under "III. *Irritant Fume Protocol*", item III.C.6., delete "(See paragraph 4.h.)".

x. In Appendix C, under "III. *Irritant Fume Protocol*", item III.C.11., in the first sentence, delete "in".

Appendix E to § 1910.1001—[Amended]

y. In Appendix E, under "Interpretation and Classification of Chest Roentgenograms—Mandatory", item (a) is revised to read "(a) Chest roentgenograms shall be interpreted and classified in accordance with a professionally accepted Classification system and recorded on an interpretation form following the format of the CDC/NIOSH (M) 2.8 form. As a minimum, the content within the bold lines of this form (items 1 through 4) shall be included. This form is not to be submitted to NIOSH.".

Appendix F to § 1910.1001—[Amended]

z. In Appendix F, under "A. *Enclosed Cylinder/HEPA Vacuum System Method*", second paragraph, third sentence, "The brake assembly isolation cylinder is available from Nilfisk Company and comes", is revised to read

"One company manufactures the brake assembly isolation cylinder".

aa. In Appendix F, under "A. *Enclosed Cylinder/HEPA Vacuum System Method*", footnote 1, is deleted.

bb. In Appendix F, under "C. *Information on the Effectiveness of Various Control Measures*", in the preferred methods" section, first paragraph, the word "below" which ends the second sentence, is revised to read "above".

Appendix G to § 1910.1001—[Amended]

cc. In Appendix G, under "IV. *Disposal Procedures and Cleanup*", item IV.A., the word "is" after actinolite is revised to read "are".

dd. In Appendix G, under "IV. *Disposal Procedures and Cleanup*", item IV.C., "logs" is revised to read "bags".

Appendix H to § 1910.1001—[Amended]

ee. In Appendix H, under "IV. *Surveillance and Preventive Considerations*", the first sentence in the second paragraph, is revised to read "The employer is required to institute a medical surveillance program for all employees who are or will be exposed to asbestos, tremolite, anthophyllite, actinolite or a combination of these minerals at or above the action level (0.1 fiber per cubic centimeter of air).".

§ 1910.1001 [Amended]

ff. The OMB Control Number is added at end of § 1910.1001 to read as follows:

[Information collection requirements contained in paragraphs § 1910.1001 (d)(2), (d)(3), (d)(5), (e)(7), (f)(2), (g)(3) (i), (j)(5), (l), and (m) were approved by the Office of Management and Budget under Control No. 1218–0133]

PART 1926—SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

3. The authority citation for Part 1926 continues to read as follows:

Authority: Secs. 4, 6, 8, Occupational Safety and Health Act of 1970, 29 U.S.C. 653, 655, 657; Sec. 107, Contract Work Hours and Safety Standards Act (Construction Safety Act), 40 U.S.C. 333, and Secretary of Labor's Orders 12–71 (36 FR 8754), 8–76 (41 FR 25059), or 9–83 (48 FR 35736), as applicable. Sections 1926.55(c) and 1926.58 also issued under 29 CFR 1911.

4. 29 CFR 1926.58 is amended as follows:

a. In paragraph (b), under "Renovation", insert "or" after "anthophyllite,".

b. In paragraph (e)(6)(iv), add "[Refer to Appendix G.]" after the last sentence.

c. In paragraph (f)(2)(i), insert "or" after the first time "anthophyllite," appears.

d. In paragraph (h)(2)(iii)(B), Table D–4, the first entry in the right hand column which reads "Half-mask air-purifying respirator equipped with high-efficiency filters." is revised to read "Half-mask air-purifying respirator, other than a disposable respirator, equipped with high efficiency filters.".

e. In paragraph (h)(4)(ii), "Table 1" is revised to read "Table D–4".

f. In paragraph (k)(3)(i), "minerals in excess of the action level" is revised to read "minerals at or above the action level".

g. Paragraph (k)(3)(ii) is revised to read "Training shall be provided prior to or at the time of initial assignment [unless the employee has received equivalent training within the previous 12 months] and at least annually thereafter".

h. In paragraph (k)(3)(iii)(F), delete "and".

i. In paragraph (k)(3)(iii)(G), "requirements." is revised to read "requirements; and".

j. In paragraph (k)(3)(iii)(H), "A review" is revised to read "The content".

k. In paragraph (o)(1), change "[insert date 30 days from publication in the **Federal Register**]" to "July 21, 1986".

l. In paragraph (o)(2)(i), change "[insert date 210 days from publication in the **Federal Register**]" to "January 16, 1987".

Appendix A to § 1926.58—[Amended]

m. In Appendix A, under "*Sampling and Analytical Procedure*", item 2., "50-mm extension cowl" is revised to read "50-mm electrically conductive extension cowl".

n. In Appendix A, under "*Sampling and Analytical Procedure*", item 13.b., "Count all particles as asbestos, tremolite." is revised to read, "In the absence of other information, count all particles as asbestos, tremolite.".

o. In Appendix A, under "*Quality Control Procedures*", item 2., in the first sentence, "that as a minimum includes participation of" is revised to read "that, as a minimum, includes participation of".

Appendix B to § 1926.58—[Amended]

p. In Appendix B, under "*Asbestos, Tremolite, Anthophyllite, and Actinolite Sampling and Analysis Method*", in the "Flow rate" paragraph "l/min" signifying liters per minute , is revised to read "L/min" the four times it appears.

q. In Appendix B, under *Asbestos, Tremolite, Anthophyllite, and Actinolite Sampling and Analysis Method*", in the "Equipment" section, item 1., "50-mm extension cowl" is revised to read "50-mm electrically conductive extension cowl".

r. In Appendix B, under "*Sampling*", item 4., the left side of the equation "t_{min}" is revised to read "$t_{minimum}$".

s. In Appendix B, under "*Sampling*", item 6., "sampler" is revised to read "sample". 151

t. In Appendix B, under "*Sample Preparation*", item 10.d., "in unsufficient" is revised to read "is insufficient".

u. In Appendix B, under "*Calculations*", item 21., the equation is revised to read:

$$E = \frac{(F/n_f)-(B/n_b)}{A_f} \text{ fibers/mm}^2$$

where:
n_f = number of fields in submission sample
n_b = number of fields in blank sample

Appendix C to § 1926.58—[Amended]

v. In Appendix C, under "I. *Isoamy [Acetate Protocol]*", item I.C.15., remove the last two sentences.

w. In Appendix C, under "II. *Saccharin Solution Aerosol Protocol,*" item II.C.14., "IAA" is revised to read "saccharin solution aerosol".

x. In Appendix C, under "III. *Irritant Fume Protocol*", item III.A., "combination of high-efficiency and acid-gas cartridges", is revised to read "high-efficiency cartridge".

y. In Appendix C, under "III. *Irritant Fume Protocol*", item III.B.8.v., "Reading it" is revised to read "Repeating it after the test conductor (keeping eyes closed)".

z. In Appendix C, under "III. *Irritant Fume Protocol*", item III.B.12., "IAA" is revised to read "irritant fume".

aa. In Appendix C, under "III. *Irritant Fume Protocol*", item III.C.3.c., "particular" is revised to read particulate".

bb. In Appendix C, under "III. *Irritant Fume Protocol*", item III.C.4.a., "Norton" is revised to read "North".

cc. In Appendix C, under "III. *Irritant Fume Protocol*", item III. C.4.a.(2), insert "of" after "pressure".

dd. In Appendix C, under "III. *Irritant Fume Protocol*", item III.C.5.e., are revised to read "Reading (R). The test subject (keeping eye closed) shall repeat after the test conductor the 'rainbow passage' at the end of this section. The subject shall talk slowly and aloud so as to be heard clearly by the test conductor or monitor.".

ee. In Appendix C, under "III. *Irritant Fume Protocol*", item III.C.6., delete "(See paragraph 4.h.)".

Appendix E to § 1926.58—[Amended]

ff. In Appendix E, under *"Interpretation and Classification of Chest Roentgenograms—Mandatory"*, item (a) is revised to read "(a) Chest roentgenograms shall be interpreted and classified in accordance with a professionally accepted classification system and recorded on an interpretation form following the format of the CDC/NIOSH (M) 2.8 form. As a minimum, the content within the bold lines of this form (items 1 through 4) shall be included. This form is not be submitted to NIOSH.".

gg. In Appendix F, under *"HEPA-Filtered Vacuum"*, fourth sentence, delete "Nilfisk of America, Inc. * ," and the corresponding footnote.

hh. In Appendix F, under *"Exhaust Air Filtration System"*, fourth sentence, delete "Micro Trap, Inc., * ".

ii. In Appendix F, under *"Exhaust Air Filtration System"*, fifth sentence, "Micro-Trap * " is revised to read "these".

Appendix G to § 1926.58—[Amended]

jj. In Appendix G, in the first paragraph, reference to "paragraphs (e)(6) and (f)(2)(ii)(B) of § 1926.58" is revised to read "paragraphs (e)(6), (j)(1)(i) and (j)(2)(i) of § 1926.58".

kk. In Appendix G, under *"Glove Bag Equipment and Supplies"*, item 7, delete "dust".

Appendix H to § 1926.58—[Amended]

ll. In Appendix H, under "IV. *Disposal Procedures and Cleanup*", item IV.C., "logs" is revised to read "bags".

§ 1926.58 [Amended]

mm. The OMB Control Number is added at the end of § 1926.58 to read as follows:

(Information collection requirements contained in paragraphs § 1926.58 (f)(2), (f)(3), (f)(6), (h)(3)(i), (k)(3), (k)(4), (m), and (n) were approved by the Office of Management and Budget under Control No. 1218–0134)

Signed at Washington, DC, this 5th day of May, 1987.

John A. Pendergrass,

Assistant Secretary of Labor, Occupational Safety and Health.

[FR Doc. 87–10652 Filed 5–11–87; 8:45 am]

BILLING CODE 4510–26–M

DEPARTMENT OF DEFENSE

Department of the Air Force

32 CFR Part 818a

Personal Commercial Affairs

AGENCY: Department of the Air Force, DOD.

ACTION: Final rule.

SUMMARY: The Department of the Air Force has revised its rule on Personal Commercial Affairs to implement Department of Defense (DOD) Directive 1344.7, February 13, 1986 (32 CFR Part 43). This revision updates DOD policies covering the conduct of private commercial solicitation and sales on Air Force installations.

EFFECTIVE DATE: June 11, 1987.

FOR FURTHER INFORMATION CONTACT: MSgt Richard R. Hollett, HQ AFMPC/DPMASC, Randolph AFB, TX 78150–6001, telephone (512) 652–3996.

SUPPLEMENTARY INFORMATION: The Department of the Air Force published a notice of proposed rulemaking on personal commercial affairs in the Federal Register on March 25, 1987 (52 FR 9499). No comments were received.

The Department of the Air Force has determined that this regulation is not a major rule as defined by Executive Order 12291, is not subject to the relevant provisions of the Regulatory Flexibility Act of 1980 (Pub. L. 96–354), and does not contain reporting or recordkeeping requirements under the criteria of the Paperwork Reduction Act of 1980 (Pub. L. 96–511).

List of Subjects in 32 CFR Part 818a

Federal buildings and facilities, Life insurance, Military personnel.

Therefore, 32 CFR Part 818a is revised to read as follows:

PART 818A—PERSONAL COMMERCIAL AFFAIRS

Subpart A—Introduction

Subpart B—Life Insurance Products and Securities

Subpart C—Private Commercial Solicitation on Air Force Installation

Subpart D—Personal Commercial Affairs Training

Authority: 10 U.S.C. 8012.

Note.—This part is derived from Air Force Regulation 211–16.

Subpart A—Introduction

§ 818a.0 Purpose.

This part sets policy for private commercial solicitation and sales on Air Force installations. It is designed to safeguard and promote the welfare and interests of military personnel as consumers. It requires commanders to be sure that all commercial soliciting and selling of all types of insurance, securities, and other goods, services, and commodities are monitored and controlled. This rule applies to all Air Force installations. It does not apply to the USAF Reserve or the Air National Guard. It implements 32 CFR Part 43 (Department of Defense (DOD) Directive 1344.7, February 13, 1986).

§ 818a.1 References.

(a) Part 806 of this chapter.

(b) AFR 34–4, Morale, Welfare, and Recreation (MWR) Basic Responsibilities, Policies, and Practices-Private Organizations.

(c) Part 818 of this chapter.

(d) AFR 40–735, Civilian Conduct and Responsibility.

(e) Part 818b of this chapter.

(f) AFR 110–27, Preventive Law Program.

(g) AFR 145–15, Air Force Commissary Store Regulation.

(h) AFR 147–7, Army and Air Force Exchange Service (AAFES) General Policies.

(i) AFR 170–32, Personal Financial Management Program (PFMP).

(j) Federal Reserve Board Regulation Z.

(k) Federal Personnel Manual.

Note.—Part 806 of this chapter states the basic policies and instructions governing the disclosure of records and tells members of the public what they must do to inspect or obtain copies of the material referenced herein.

§ 818a.2 Terms explained.

(a) *Agent.* An individual who receives pay as a salesperson or whose pay is dependent on volume of sales of a product or products.

Subpart M—National Emission Standard for Asbestos

§ 61.140 Applicability.

The provisions of this subpart are applicable to those sources specified in §§ 61.142 through 61.153.

§ 61.141 Definitions.

All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in Subpart A of this part.

Active waste disposal site means any disposal site other than an inactive site.

Adequately wetted means sufficiently mixed or coated with water or an aqueous solution to prevent dust emissions.

Asbestos means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.

Asbestos-containing waste materials means any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes asbestos mill tailings, asbestos waste from control devices, friable asbestos waste material, and bags or containers that previously contained commercial asbestos. However, as applied to demolition and renovation operations, this term includes only friable asbestos waste and asbestos waste from control devices.

Asbestos material means asbestos or any material containing asbestos.

Asbestos mill means any facility engaged in converting, or in any intermediate step in converting, asbestos ore into commercial asbestos. Outside storage of asbestos material is not considered a part of the asbestos mill.

Asbestos tailings means any solid waste that contains asbestos and is a product of asbestos mining or milling operations.

Asbestos waste from control devices means any waste material that contains asbestos and is collected by a pollution control device.

Commercial asbestos means any asbestos that is extracted from asbestos ore.

Demolition means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations.

Emergency renovation operation means a renovation operation that was not planned but results from a sudden, unexpected event. This term includes operations necessitated by nonroutine failures of equipment.

Fabricating means any processing of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites for the construction or restoration of facilities.

Facility means any institutional, commercial, or industrial structure, installation, or building (excluding apartment buildings having no more than four dwelling units).

Facility component means any pipe, duct, boiler, tank, reactor, turbine, or furnace at or in a facility; or any structural member of a facility.

Friable asbestos material means any material containing more than 1 percent asbestos by weight that hand pressure can crumble, pulverize, or reduce to powder when dry.

Inactive waste disposal site means any disposal site or portion of it where additional asbestos-containing waste material will not be deposited and where the surface is not disturbed by vehicular traffic.

Manufacturing means the combining of commercial asbestos—or, in the case of woven friction products, the combining of textiles containing commercial asbestos—with any other material(s), including commercial asbestos, and the processing of this combination into a product.

Outside air means the air outside buildings and structures.

Particulate asbestos material means finely divided particles of asbestos material.

Planned renovation operations means a renovation operation, or a number of such operations, in which the amount of friable asbestos material that will be removed or stripped within a given period of time can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur during a given period of time based on operating experience.

Remove means to take out friable asbestos materials from any facility.

Renovation means altering in any way one or more facility components. Operations in which load-supporting structural members are wrecked or taken out are excluded.

Roadways means surfaces on which motor vehicles travel. This term includes highways, roads, streets, parking areas, and driveways.

Strip means to take off friable asbestos materials from any part of a facility.

Structural member means any load-supporting member of a facility, such as beams and load supporting walls; or any nonload-supporting member, such as ceilings and nonload-supporting walls.

Visible emissions means any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

* 4-5-84
13658-65

In renovation operations, wetting that would unavoidably damage equipment is not required if the owner or operator:

(1) Asks the Administrator to determine whether wetting to comply with this paragraph would unavoidably damage equipment, and, before beginning to strip, supplies the Administrator with adequate information to make this determination; and

(2) When the Administrator does determine that equipment damage would be unavoidable, uses a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping and removal of the friable asbestos materials. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.154.

(d) After a facility component has been taken out of the facility as units or in sections, either:

(1) Adequately wet friable asbestos materials during stripping; or

(2) Use a local exhaust ventilation and collection system designed and operated to capture the particulate asbestos material produced by the stripping. The system must exhibit no visible emissions to the outside air or be designed and operated in accordance with the requirements in § 61.154.

(e) For friable asbestos materials that have been removed or stripped:

(1) Adequately wet the materials to ensure that they remain wet until they are collected for disposal in accordance with § 61.152; and

(2) Carefully lower the materials to the ground or a lower floor, not dropping or throwing them; and

(3) Transport the materials to the ground via dust-tight chutes or containers if they have been removed or stripped more than 50 feet above ground level and were not removed as units or in sections.

(f) When the temperature at the point of wetting is below 0°C (32°F):

(1) Comply with the requirements of paragraphs (d) and (e) of this section. The owner or operator need not comply with the other wetting requirements in this section; and

(2) Remove facility components coated or covered with friable asbestos materials as units or in sections to the maximum extent possible.

(g) For facilities described in § 61.145(c), adequately wet the portion of the facility that contains friable asbestos materials during the wrecking operation.

§ 61.148 Standard for spraying.

The owner or operator of an operation in which asbestos-containing materials are spray applied shall comply with the following requirements:

(a) Use materials that contain 1 percent asbestos or less on a dry weight basis for spray-on application on buildings, structures, pipes, and conduits, except as provided in paragraph (c) of this section.

(b) For spray-on application of materials that contain more than 1 percent asbestos on a dry weight basis on equipment and machinery, except as provided in paragraph (c) of this section:

(1) Notify the Administrator at least 20 days before beginning the spraying operation. Include the following information in the notice:

(i) Name and address of owner or operator.

(ii) Location of spraying operation.

(iii) Procedures to be followed to meet the requirements of this paragraph.

(2) Discharge no visible emissions to the outside air from the spray-on application of the asbestos-containing material or use the methods specified by § 61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

(c) The requirements of paragraphs (a) and (b) of this section do not apply to the spray-on application of materials where the asbestos fibers in the materials are encapsulated with a bituminous or resinous binder during spraying and the materials are not friable after drying.

(d) Owners and operators of sources subject to this section are exempt from the requirements of §§ 61.05(a), 61.07, and 61.09.

(Approved by the Office of Management and Budget under control number 2060–0284)

§ 61.149 Standard for fabricating.

(a) *Applicability.* This section applies to the following fabricating operations using commercial asbestos:

(1) The fabrication of cement building products.

(2) The fabrication of friction products, except those operations that primarily install asbestos friction materials on motor vehicles.

(3) The fabrication of cement or silicate board for ventilation hoods; ovens; electrical panels; laboratory furniture, bulkheads, partitions, and ceilings for marine construction; and flow control devices for the molten metal industry.

(b) *Standard.* Each owner or operator of any of the fabricating operations to which this section applies shall either:

(1) Discharge no visible emissions to the outside air from any of the operations or from any building or structure in which they are conducted; or

(2) Use the methods specified by § 61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air.

§ 61.150 Standard for insulating materials.

After the effective date of this regulation, no owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this paragraph do not apply to spray-applied insulating materials regulated under § 61.148.

§ 61.151 Standard for waste disposal for asbestos mills.

Each owner or operator of any source covered under the provisions of § 61.142 shall:

(a) Deposit all asbestos-containing waste material at waste disposal sites operated in accordance with the provisions of § 61.156; and

(b) Discharge no visible emissions to the outside air from the transfer of asbestos waste from control devices to the tailings conveyor, or use the methods specified by § 61.154 to clean emissions containing particulate asbestos material before they escape to, or are vented to, the outside air. Dispose of the asbestos waste from control devices in accordance with § 61.152(b) or paragraph (c) of this section; and

(c) Discharge no visible emissions to the outside air during the collection, processing, packaging, transporting, or deposition of any asbestos-containing waste material, or use one of the disposal methods specified in paragraphs (c) (1) or (2) of this section, as follows:

(1) Use a wetting agent as follows:

(i) Adequately mix all asbestos-containing waste material with a wetting agent recommended by the manufacturer of the agent to effectively wet dust and tailings, before depositing the material at a waste disposal site. Use the agent as recommended for the particular dust by the manufacturer of the agent.

(ii) Discharge no visible emissions to the outside air from the wetting operation or use the methods specified by § 61.154 to clean emissions containing particulate asbestos material

(iv) Avoiding the use of synthetic fabrics that contain fill yarn other than that which is spun.

(2) Properly install, use, operate, and maintain all air-cleaning equipment authorized by this section. Bypass devices may be used only during upset or emergency conditions and then only for so long as it takes to shut down the operation generating the particulate asbestos material.

(b) There are the following exceptions to paragraph (a)(1):

(1) If the use of fabric creates a fire or explosion hazard, the Administrator may authorize as a substitute the use of wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals (40 inches water gage pressure).

(2) The Administrator may authorize the use of filtering equipment other than that described in paragraphs (a)(1) and (b)(1) of this section if the owner or operator demonstrates to the Administrator's satisfaction that it is equivalent to the described equipment in filtering particulate asbestos material.

§ 61.155 Reporting.

(a) Within 90 days after the effective date of this subpart, each owner or operator of any existing source to which this subpart applies shall provide the following information to the Administrator, except that any owner or operator who provided this information prior to April 5, 1984 in order to comply with § 61.24 (which this section replaces) is not required to resubmit it.

(1) A description of the emission control equipment used for each process; and

(2) If a fabric filter device is used to control emissions, the pressure drop across the fabric filter in inches water gage; and

(i) If the fabric device uses a woven fabric, the airflow permeability in $m^3/min/m^2$ and; if the fabric is synthetic, whether the fill yarn is spun or not spun; and

(ii) If the fabric filter device uses a felted fabric, the density in g/m^2, the minimum thickness in inches, and the airflow permeability in $m^3/min/m^2$.

(3) For sources subject to §§ 61.151 and 61.152:

(i) A brief description of each process that generates asbestos-containing waste material; and

(ii) The average weight of asbestos-containing waste material disposed of, measured in kg/day; and

(iii) The emission control methods used in all stages of water disposal; and

(iv) The type of disposal site or incineration site used for ultimate disposal, the name of the site operator, and the name and location of the disposal site.

(4) For sources subject to § 61.153:

(i) A brief description of the site; and

(ii) The method or methods used to comply with the standard, or alternative procedures to be used.

(b) The information required by paragraph (a) of this section must accompany the information required by § 61.10. The information described in this section must be reported using the format of Appendix A of this part.

(Sec. 114, Clean Air Act as amended (42 U.S.C. 7414)).

(Approved by this Office of Management and Budget under control number 2000–0264)

§ 61.156 Active waste disposal sites.

To be an acceptable site for disposal of asbestos-containing waste material under §§ 61.151 and 61.152, an active waste disposal site must meet the requirements of this section.

(a) Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of paragraph (c) or (d) of this section must be met.

(b) Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the requirements of paragraph (c)(1) of this section must be met.

(1) Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:

(i) Be posted in such a manner and location that a person can easily read the legend; and

(ii) Conform to the requirements of 51 cm × 36 cm (20" × 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

(iii) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust	1.9 cm (¾ inch) Sans Serif, Gothic or Block.
Breathing Asbestos is Hazardous to Your Health.	14 Point Gothic

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

(2) The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public.

(3) Upon request and supply of appropriate information, the Administrator will determine whether a fence or a natural barrier adequately deters access by the general public.

(c) Rather than meet the no visible emission requirement of paragraph (a) of this section, an active waste disposal site would be an acceptable site if at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material which was deposited at the site during the operating day or previous 24-hour period is covered with either.

(1) At least 15 centimeters (6 inches) of compacted nonasbestos-containing material, or

(2) A resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. This agent must be used as recommended for the particular dust by the manufacturer of the dust suppression agent. Other equally effective dust suppression agents may be used upon prior approval by the Administrator. For purposes of this paragraph, waste crankcase oil is not considered a dust suppression agent.

(d) Rather than meet the no visible emission requirement of paragraph (a) of this section, an active waste disposal site would be an acceptable site if an alternative control method for emissions that has received prior approval by the Administrator is used.

Texas Department of Health
Occupational Safety & Health

ASBESTOS EXPOSURE ABATEMENT IN PUBLIC BUILDINGS

These new sections are authorized under the Texas Civil Statutes, Article 4477-3a, which provides the Texas Board of Health with the authority to adopt rules for the registration of workers and licensure of persons engaging in the removal or encapsulation of asbestos, or other asbestos-related activity, in all buildings of public occupancy or access.

§289.141. GENERAL PROVISIONS.

(a) PURPOSE. The purpose of these sections is to establish the means of control and elimination of public exposure to airborne asbestos fibers, a known carcinogen and dangerous health hazard, by regulating asbestos abatement activities in public buildings.

(b) SCOPE. These sections apply to all buildings which are subject to public occupancy or to which the general public has access, and to all persons engaged in removing asbestos from or encapsulating asbestos in a public building for any purpose, including repair, renovation, dismantling, demolition, installations or maintenance operations, or any other activity that may involve the disturbance or removal of asbestos-containing materials in public buildings. Also included are the qualifications for accreditation of these persons and for compliance with these sections and all applicable standards of the U. S. Environmental Protection Agency, and the Occupational Safety and Health Administration.

(c) EXCLUSIONS. Whereas these sections apply to buildings capable of public occupancy, those buildings or portions of buildings to which all access is strictly and entirely controlled or prohibited because of processes or functions dangerous to human health and safety are excluded from these sections. Private residences are excluded, as well as federal buildings or military installations.

§289.142. DEFINITIONS.

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise:

ASBESTOS - Fibrous mineral forms (chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite).

ASBESTOS ABATEMENT - An activity that has the effect of reducing or eliminating the concentration of asbestos fibers or the amount of asbestos-containing materials in reference to the removal or encapsulation of asbestos-containing materials or products.

ASBESTOS-CONTAINING MATERIAL (ACM) - Materials or products that contain more than one percent (1.0%) by weight of any kind or combination of mineral asbestos, as determined by EPA-recommended methods.

ASBESTOS CONTRACTOR - A person who is hired to perform asbestos removal or encapsulation for others under contract or other agreement.

ASBESTOS EXPOSURE - Exposure to airborne asbestos fibers as a result of disturbance or deterioration of mineral asbestos or asbestos-containing materials.

ASBESTOS HAZARD EMERGENCY RESPONSE ACT of 1986 (AHERA), Public Law 99-519 - A law amending the Federal Toxic Substances Control Act, 15 USC 2601, et seq., to reinspect all school buildings (Grades K-12), and to require all school administrations to develop plans for controlling asbestos in or removing asbestos from school buildings, and providing penalties for non-compliance.

ASBESTOS PROJECT SUPERVISOR - An individual who is in responsible charge of the personnel, practices, and procedures of an asbestos abatement operation or activity.

ASBESTOS-RELATED ACTIVITY - Any activity in connection with a public building that includes the disturbance, dislodgement, or the removal of asbestos, in the course of asbestos removal, encapsulation, enclosure, or repairs, renovation, maintenance, installation, dismantling or demolition, that has as its objective or results in the removal or encapsulation of asbestos.

ASBESTOS REMOVAL - includes any action that disturbs, dislodges or otherwise takes away asbestos-containing material.

BOARD - The Texas Board of Health.

BUILDING OWNER-OPERATOR - The responsible management for any public building.

CFR - CODE OF FEDERAL REGULATIONS. The 29 CFR series are OSHA regulations, the 40 CFR series are EPA regulations.

COMMISSIONER - The Texas Commissioner of Health.

DEPARTMENT - The Texas Department of Health, located at 1100 West 49th St., Austin, Texas 78756. (512) 458-7255.

ENCAPSULATION - A type of asbestos containment in which the surface of the asbestos-containing material is either penetrated by the encapsulant or covered with a membrane of the encapsulating material.

EPA - The U. S. Environmental Protection Agency, which administers Federal regulations concerning the environmental effects of asbestos materials.

FRIABLE MATERIAL - Materials that can be crumbled or pulverized by hand pressure.

HEPA FILTERS - "High-efficiency particulate air", a filter capable of removing 99.97% of airborne particles 0.3 micron or larger in diameter.

LICENSEE - A person who meets all qualifications and has been issued a license by the department under these sections.

MODEL ACCREDITATION PLAN (EPA) - Provides standards for initial training, examinations, refresher training courses, applicant qualifications, decertification, and reciprocity (40 CFR 763, Appendix C to Subpart E).

NIOSH - The National Institute of Occupational Safety and Health.

OSHA - The Occupational Safety and Health Administration of the U. S. Department of Labor, which administers Federal regulations pertaining to employee safety and protection during asbestos-abatement activities.

PERSON - Includes corporation, organization, governmental subdivision or agency, business trust, estate, trust, partnership, association, and any other legal entity.

PHYSICAL EXAMINATION - Shall include a medical history, an examination by a physician and a spirometric test. May also include a chest x-ray at the discretion of the physician. A physical examination is required by Federal regulations of all persons who shall come in close proximity to asbestos during any asbestos-abatement activity.

PUBLIC BUILDING - A building that is open to the public or that has public access, including but not limited to government buildings and public schools.

REGULATED AREA - The isolated work area in which asbestos abatement activity takes place, and in which the possibility of exceeding the permissible exposure limits (PEL) for concentrations of airborne asbestos may exist.

§289.143. **LICENSURE.**

(a) **A PERSON MUST BE LICENSED** in compliance with the provisions of these sections to engage in the business of removing asbestos or encapsulating asbestos in a public building, whether as an asbestos abatement contractor, a building owner-operator using his own employees, or as an asbestos project supervisor.

(b) **THE ANNUAL LICENSE FEE IS $475.** No portion of this fee shall be refunded if a license is suspended or revoked, or if a licensee otherwise discontinues licensed activities.

(c) An individual may not engage in the supervision of removing asbestos, encapsulating asbestos, or any asbestos-related activity in a public building unless that individual is licensed under these sections. Consultants or advisors must be licensed only if they assume the role of the supervisor in responsible charge of the conduct of an abatement operation.

(d) Persons obtaining bulk material samples or airborne particulate samples are not required to be licensed. (If they enter a regulated work area, they are subject to compliance with the requirements of 29 CFR 1926.58 (OSHA) entitled, "Occupational Exposure to Asbestos".)

(e) **TO QUALIFY FOR A LICENSE,** an applicant must demonstrate in a manner acceptable to the Department that he meets the applicable qualifications listed below. An applicant organization shall designate an individual who is employed by or under contract with the applicant for the purpose of meeting the requirements of this subsection:

(1) The applicant has a minimum of one year's experience with asbestos abatement practices and procedures, which shall be submitted in written form, giving locations and dates of such abatement activities, a description of the duties performed by the applicant in each instance, and sufficient references including names, address, phone numbers, etc., to permit verification;

(2) applicant has completed an EPA-approved course of instruction within the past twelve months of not less than 32 classroom hours relating to asbestos practices and procedures with a passing grade of 70 or better on the examination. Persons who have completed this required training with a passing grade since January 1, 1987, and who apply for licensing on or before April 1, 1988, shall be accepted under this provision;

(3) applicant is capable of compliance with all Federal asbestos standards of the U. S. Environmental Protection Agency and the Occupational Safety and Health Administration of the U. S. Department of Labor;

(4) all individuals subject to license renewal shall complete an annual update course of instruction approved by the Department so as to fulfill the training requirements for licensing or renewal; and

(5) all individuals must furnish acceptable evidence of a physical examination within the past one-year period that was conducted by a physical in accordance with 29 CFR 1926.58(m) of OSHA rules, relating to medical surveillance.

(f) **THE TERMS AND CONDITIONS OF ALL LICENSES** shall be subject at any time to revision, amendment, or modification by rules or orders issued by the Board or the Department. No license issued under these sections may be assigned or transferred.

(g) **APPLICATIONS FOR A LICENSE** under these sections shall be made on forms provided by the Department, shall be verified by the applicant, and must be accompanied by a check or money order for the amount of the license fee. Only applications which are complete can be considered by the Department.

(1) the Department shall have 90 days after receipt of application to determine acceptance. In the event that an application is found to be incomplete, the Department will notify the applicant of the required information necessary to complete the application;

(2) the applicant shall have 20 working days from the mailing date of the notification to supply the information to complete the application; or

(3) in the event the application is discarded, abandoned, or remains incomplete after 90 days, the Department shall retain the application fee.

(h) At least 30 days before any license is due to expire, the Department shall send a renewal notice to the licensee at his last known mailing address. A licensee may not apply for a renewal of license sooner than 60 days before the expiration date of the current license. A license that has lapsed for a period of more than 60 days shall not be eligible for the renewal procedure.

§289.144. LICENSING STANDARDS.

(a) No license shall be issued under these sections, and no license shall be renewed or remain in effect unless the licensee demonstrates to the satisfaction of the Department that the following standards are met:

(1) Every asbestos operation undertaken by an asbestos abatement contractor or building owner-operator shall be supervised by at least one licensed supervisor who shall be directly responsible for each asbestos abatement operation;

(2) each employee or agent of any licensee who shall come into contact with asbestos, or who shall engage in an asbestos removal project, an asbestos encapsulation project, or other asbestos-abatement activity shall have an annual physical examination, be properly equipped and trained, and be licensed or registered in accordance with these sections;

(3) **EACH LICENSEE SHALL KEEP A COMPLETE RECORD** of each asbestos activity or operation in public buildings to the extent of his or her participation. Records shall include:

-name and address of the contractor or building owner-operator,
-name and address of project supervisor(s),
-location and description of operation(s),
-description of abatement procedures,
-description of personal safety practices,
-name and address of waste disposal site,
-dates of participation in the operation,
-and a roster of registered asbestos workers employed.

Such records shall be kept for 30 years. Each licensee shall also keep a copy of all violations issued against him by the EPA, OSHA, or a state agency. These required records shall be made available, upon request, for inspection and review by the department;

(4) each licensee shall assist and cooperate with all properly-identified representatives of the department in the conduct of asbestos inspections, surveys, or monitoring procedures at all reasonable or necessary times, with or without prior notice, in accordance with §289.147 of this title (relating to Abatement Notification, Plans Review, and Inspections). Such inspections may be made at proposed, actual, or former sites of asbestos-related activities, or the premises, records, equipment and personnel of licensees or applicants thereto, or those who have held active licenses previously;

(5) each licensee who employs registered asbestos workers, in accordance with §289.149 of this title (relating to Registration of Asbestos Workers) shall be responsible for establishing and maintaining a respiratory protection program; and

(6) the licensee must maintain in safe working condition a sufficient number of approved respirators to meet all anticipated requirements of his employees; and any employee whose facial characteristics, hair, mustache, or beard preclude a tight fit (pressure-test fit) of his respirator shall not be allowed to enter the regulated work area enclosure of an asbestos operation.

(b) **EACH LICENSEE SHALL HAVE IN POSSESSION**, for study and reference purposes, either a copy or the text of each of the following:

(1) "Guidance for Controlling Asbestos Materials in Buildings," EPA Manual 560/5-85-024, (June 1985), and any supplement;

(2) "National Emissions Standards for Hazardous Air Pollutants," 40 CFR Part 61, Subparts A and M, (EPA);

(3) "Asbestos Abatement Projects: Worker Protection Rule," 40 CFR Part 763, Subpart G, (EPA);

(4) "Asbestos-Containing Materials in Schools," 40 CFR Part 763, Subpart E, as amended, (EPA);

(5) "Occupational Exposure to Asbestos", 29 CFR §1926.58, (OSHA);

(6) "Occupational Health Standards for A Respiratory Protection Program": 29 CFR §1910.134, (OSHA);

(7) Texas Civil Statutes, Article 4477-3a, covering the regulation of asbestos in Texas, (House Bill 36, Acts of the 70th Legislature, 1987); and

(8) these sections, §§289.141 - 289.156 of this title (relating to Asbestos Exposure Abatement in Public Buildings) .

(c) **A LICENSEE SHALL HAVE ON HAND** in safe working condition for immediate use:

(1) a quantity of not less than 1 1/2 air-purifying respirators with replaceable HEPA filters, as described in §289.142 of this title (relating to Definitions), for each licensed or registered individual in his employment or under his supervision at any given time. The required respirators may be of the half-face or full-face style, or powered air-purifying respirators in either face style;

(2) a sufficient quantity of replacement HEPA filters of the exact type necessary for each of the respirators available for use so as to permit a daily change of filters for each respirator in use; and

(3) at least one vacuum-cleaning machine equipped with a HEPA exhaust filter for vacuuming asbestos debris.

(d) In addition, a licensee, when required by the nature of the asbestos-related activity, shall possess on hand and in working condition, either:

(1) supplied-air system using a compressor or bottled air, capable of delivery of Grade D breathing air with a sufficient quantity of NIOSH-approved Type C supplied-air full-face respirators, connecting hoses, and regulators to completely equip their abatement crew within the regulated work area; or

(2) a self-contained breathing apparatus (SCBA) equipped with NIOSH-approved full facepiece in sufficient quantity to equip each member of their abatement crew within the work area, and with sufficient additional air tanks to supply the crew for a work period.

§289.147. ABATEMENT NOTIFICATION, PLANS, REVIEW, INSPECTIONS.

(a) Whenever a licensee proposes to engage in an asbestos-related activity in a public building, notification of intent shall be made to the department not less than ten (10) days before such activities are to commence, and in the manner required by the Department.

(b) In an emergency that results from a sudden, unexpected event that is not part of a planned renovation or demolition, the Department may, upon request, waive the requirement for a license, but notification shall be required. Emergency notification shall be made to the Department as soon as possible, but within 48 hours. Telephone (512) 458-7255.

(c) The department shall conduct on-site inspections of each licensee's abatement activities periodically. An on-site inspection may include an inspection of the licensee's records and equipment, and a determination of the extent of compliance with EPA and OSHA regulations, as listed in §289.144(b) of this title (relating to Licensing Standards).

(d) The department may enter into agreements or contracts with other public agencies or private contractors to conduct all or part of these inspections.

§289.148. REPRIMAND, SUSPENSION, AND REVOCATION.

(a) The department may reprimand any licensee, or may suspend, revoke, deny, or refuse to issue or to renew a license on any of the following grounds:

(1) fraud or deception in obtaining, attempting to obtain, or renewing a license;

(2) failure to comply with the work practices of the Environmental Protection Agency or Occupational Safety and Health Administration. These standards are listed in §289.144(b) of this title (relating to Licensing Standards).

(3) failure at any time to comply with the provisions of §§289.144(a) of this title (relating to Licensing Standards);

(4) failure to maintain or to permit inspection of the records required of all licensees.

(5) employing or permitting an unregistered worker or unlicensed supervisor to work on any asbestos project or operation;

(6) engaging or attempting to engage in an asbestos-related activity without a valid license;

(7) failure to comply with any rule adopted by the board or order issued by the department;

(8) failure to provide notice of an asbestos project or operation as required by §289.147(a) of this title (relating to Abatement Notification, Plans Review, and Inspections);

(9) conviction within the past five years of a felony or a misdemeanor (involving fraudulent activities relating to construction or the building trades in general);

(10) failure of a contractor licensee to complete an asbestos abatement project or operation due to insufficient financial resources;

(11) failure to protect workers from asbestos exposures in excess of the current Permissible Exposure Limit (PEL);

(12) failure to prevent asbestos contamination of areas adjacent to the abatement area; or

(13) failure to decontaminate any part of a facility or its environment, or any persons inadvertently contaminated with asbestos during an operation.

(b) If the department proposes to reprimand, suspend, or revoke a license, it shall notify the licensee or applicant in writing in accordance with the Administrative Procedures and Texas Register Act, Texas Civil Statutes, Article 6252-13a.

(c) Before the department takes any action to reprimand, suspend, or revoke a license, the licensee shall be given an opportunity for a hearing. Hearings shall be conducted in accordance with the Administrative Procedures and Texas Register Act, Texas Civil Statutes, Article 6252-13a, and the Department's hearing procedures in §§1.21 - 1.32 of this title (relating to Formal Hearing Procedures).

§289.149. REGISTRATION OF EMPLOYEES AS ASBESTOS WORKERS.

(a) **AN EMPLOYEE SHALL BE REGISTERED WITH THE DEPARTMENT AS AN ASBESTOS WORKER** prior to undertaking to remove asbestos, encapsulate asbestos, or make repairs, installations, do maintenance or other asbestos-related activity in a public building.

(b) Applications for registration must be made on a form prescribed by the Department and must be accompanied by the registration fee in the amount of $25. Payment of fee shall be made by check or money order.

(c) **TO QUALIFY FOR REGISTRATION AS AN ASBESTOS WORKER** the applicant must have completed an EPA-approved course for asbestos workers or attended, completed all parts, and passed an examination of an approved training course for asbestos workers in accordance with §289.150 (relating to Standards for Training Courses for Licensure and Registration).

(d) No registered asbestos worker or applicant for registration shall be compelled to sign any statement concerning worker training, physical examination, worker protection standards, equipment, asbestos abatement practices, instances of asbestos dust exposure, or waste disposal practices that may result in fraud or deception.

§289.150. TRAINING COURSES FOR LICENSURE AND FOR REGISTRATION.

(a) **TRAINING COURSES FOR ASBESTOS LICENSE QUALIFICATION** are limited to those courses approved or certified by EPA. Minimum specifications for these courses are to be found in 40 CFR Part 763, Subpart E, Appendix C, "Model Contractor Accreditation Plan." The courses required are as follows:

(1) the abatement practices and procedures course, requiring 32 classroom hours; and

(2) the annual review or update course, requiring 8 classroom hours;

(b) **FOR ASBESTOS WORKER REGISTRATION,** the department may approve a company course of instruction if the asbestos training curriculum fulfills the requirements for asbestos abatement workers to be found in the EPA "Model Contractor Accreditation Plan " [40 CFR 763, Appendix C(E) to Subpart E], requiring three days of instruction, or in the OSHA Regulation "Occupational Exposure to Asbestos" [29 CFR 1926.58(k)], which shall require 16 hours of instruction.

(c) All sessions of training courses required for qualification under this section shall be open to audit by representatives of the department. The department is authorized to make inquiries concerning any aspect of the training required by these sections.

(d) The department shall receive reports of each training session within 30 days of the end of the session. The information reported shall include:

(1) those who complete the training, including name, social security number, address, employer; and

(2) results of the examination, if administered.

(e) Full duplicate records for each training session are to be retained by the training agency for five years.

(f) **OUT-OF-STATE ASBESTOS TRAINING** may be acceptable on an individual basis for qualification providing that identity can be established and that the courses are substantially the same as required by this section. Information provided on such training must be acceptable to the Department, which may require a re-examination prior to acceptance of an application.

§289.151. WORK PRACTICES FOR ASBESTOS-RELATED ACTIVITIES.

A person who is licensed in accordance with the sections under this undesignated head, must follow:

(1) all work practices for asbestos-related activity that are required by federal regulation and that were made a part of the training course for licensure; and

(2) the provisions in the EPA publication titled, " Guidance for Controlling Asbestos-Containing Materials in Buildings", 1985 edition, also known as the "purple book", which is referenced in §289.144(b) of this title (relating to Licensing Standards).

§289.156. ASBESTOS WASTE DISPOSAL.

All waste materials containing friable asbestos from any asbestos abatement operation shall be handled in compliance with §325.136 of this title (relating to the Disposal of Special Wastes). This program covered by §325.136 is administered by the Department's Division of Solid Waste Management.

* * * * *

This agency hereby certifies that the rule, as adopted, has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on January 28, 1988.

TRD-8800900

Robert A. MacLean
Deputy Commissioner
Professional Services
Texas Department of Health

Effective date: February 18, 1988
Proposal publication date: October 13, 1987
For further information, please call (512) 458-7255

Instructions for Completion of the TEXAS AIR CONTROL BOARD
ASBESTOS DEMOLITION/RENOVATION NOTIFICATION FORM

The "Demo/Reno Form" is a four part carbon-pack form. The individual items associated with reporting an asbestos-related activity to the Texas Air Control Board (TACB) and to the Texas Department of Health (TDH) are detailed below, in their order of appearance on the form. If you have any questions on the correct use and completion of this form, contact the regional office of the TACB closest to you. This is also the location the completed forms should be mailed to. A list of these offices can be found at the end of this document.

ITEM DESCRIPTIONS:

Contractor Information

"REMOVAL CONTRACTOR"

Name of the primary asbestos removal contractor working at the site. If a company proposes to do their own work, use "'Company Name' - Self Conducted." Required.

"MAILING ADDRESS"

The mailing address of the contractor. Required.

"PHONE"

Telephone Number for the previous entry (EXAMPLE: (512) 451-5711).

"CITY"

The name of the city or town where the removal contractor's home office is located.

"STATE"

The state in which the removal contractor's home office is located.

"ZIP"

The five-digit mailing zip code for the city or town in which the removal contractor's home office is located.

"TDH LICENSE NO."

Texas Department of Health (TDH) Contractor License Number of the Contractor or Owner/Operator engaged in the removal, encapsulation or other asbestos-related activity. A person must be licensed in compliance with TDH regulations to engage in the business of removing asbestos or encapsulating asbestos in a public building, whether as an asbestos abatement contractor, a building owner-operator using his own employees, or as an asbestos project supervisor. Report the license number of the contractor or owner/operator.

"PROJECT SUPERVISOR"

The name or names of the designated licensed project supervisor or supervisors who will be in charge of the asbestos-related activity, if other than the Removal Contractor above.

"TDH License Number"

TDH Contractor License Number of the designated licensed supervisor or supervisors who will be in charge of the asbestos-related activity.

"JOB SITE PHONE"

Telephone number where removal supervisors can be reached on the job site.

"OTHER CONTRACTOR"

General Contractor, or Subcontractor hired by contractor to carry out portions of Demo/Reno Activities, such as scaffold building, hauling, or temporary storage. List a contact name and title, if available. Required if applicable. See Removal Contractor.

"MAILING ADDRESS"

The mailing address of the "other" contractor. Required.

"PHONE"

Telephone Number for the "other" contractor (EXAMPLE: (512) 451-5711).

"CITY"

The name of the city or town where the "other" contractor's home office is located.

"STATE"

The state in which the "other" contractor's home office is located.

"ZIP"

The five-digit mailing zip code for the city or town in which the "other" contractor's home office is located.

Building Owner Information

"FACILITY OWNER"

The name of the owner of the building. List a contact name and title, if available. Required.

"MAILING ADDRESS"

List the mailing address and phone number for the building owner. Required if different from account address. Required.

"PHONE"

Telephone Number for the facility owner (Example: (512) 451-5711).

"CITY"

The name of the city or town where the facility owner's home office is located.

"STATE"

The state in which the facility owner's home office is located.

"ZIP"

The five-digit mailing zip code for the city or town in which the facility owner's home office is located.

"PRINCIPAL BUSINESS"

A brief description of the principal business carried out at the location. Please indicate here if the source is a hospital, a school or school district, or a military base. Required for a new source. Type of Facility (EXAMPLE: GENERATING STATION, PETROLEUM REFINERY, HOTEL, MILITARY BASE, CHILDREN'S HOSPITAL, SCHOOL DISTRICT).

Jobsite Information

"DESCRIPTION OF FACILITY"

A brief description of the area where the asbestos is to be removed from. A point description can be a facility name, building number, floor number, school name, etc. If the Source has sent a planned renovation operation notification for the year, enter "Yearly Notification" here. If numerous sites within one governing entity (i.e. individual schools within a school district, etc.) will be investigated, sampled, etc. for asbestos demo/reno activities, enter the specific location here.

"NAME"

The full name of the demo/reno activity location. (EXAMPLE: FURNACE PIPING, HANGER BLDG, ADAMS JUNIOR HIGH SCHOOL). Required.

"ADDRESS"

List the mailing address of the facility, if different from the facility owner, as in a school located in a school district. Required if applicable.

"CITY"

The name of the city or town where the facility is located.

"COUNTY"

Indicate the county in which the removal activity is taking place.

"STATE"

The state in which the facility is located.

"ZIP"

The five-digit mailing zip code for the city or town in which the facility is located.

"SIZE"

Size of the structure in Square Feet.

"AGE"

Age of the structure in years.

"PRIOR USE"

A brief description of the structure or location where the asbestos is found. Include information on the last use of the structure. Required. (EXAMPLE: HOTEL, COOLING TOWER, BOILER ROOM, ETC.).

Methods and Procedures

"DEMOLITION"

Check demolition only if the project includes the wrecking or taking out of a load-supporting structural member of the facility or the entire structure is being dismantled or removed.

"RENOVATION"

Check renovation if the project is limited to altering in any way, one or more facility components. Operations in which load-supporting members are wrecked or taken out are excluded.

"ENCAPSULATION"

Asbestos material will be coated with a sealant or enclosed behind a permanent barrier in lieu of removal from the site. Reporting is optional.

"NON-FRIABLE"

Project involves removal of any material containing more than one percent asbestos by weight that hand pressure cannot crumble, pulverize, or reduce to powder when dry. Reporting is optional.

"NOTIFICATION TYPE"

Planned - A renovation operation, or a number of such operations, in which the amount of friable asbestos material that will be removed within a given period of time can be predicted. Individual non-scheduled operations are included if a number of such operations can be predicted to occur based on experience.

10-Day - The amount of friable asbestos being removed is at least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components.

20-Day - The amount of friable asbestos being removed is less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components.

Renovation - A routine renovation operation where notification should be submitted as early as possible before renovation begins.

Emergency - A renovation operation that was not planned but results from a sudden, unexpected event. This includes operations necessitated by non-routine failures of equipment.

Ordered - If the facility is being demolished under an order of a State or local government agency, issued because the facility is structurally unsound and in danger of imminent collapse.

Ordered By - The name, title, and authority of the State or local governmental representative who has ordered the demolition.

"AMOUNT ASBESTOS"

Give an approximation of the amount of asbestos to be removed or covered. You may use square feet of surface, or linear feet of pipe insulation. Listing the type of asbestos removed is optional. Required. (EXAMPLE: 100 LIN.FT., 250 SQ.FT.

"METHOD OF REMOVAL"

List the method or combination of methods used to control the asbestos. You may use Wet Method, Dry Method, Encapsulation, or Enclosure. List any further information available on the methods used to collect, store, transport, and dispose of the asbestos. List the method or combination of methods used to control asbestos (EXAMPLE: REMOVAL USING WET METHOD, or, ENCLOSURE WITH GYPSUM PANELS, OR, ENCAPSULATION WITH SEALANT). Include information on the procedures used to prevent emissions of particulate asbestos material to the outside air (EXAMPLE: HEPA VACUUM AND NEGATIVE AIR, OR, GLOVE BAG TECHNIQUE, ETC.), and the disposal method used to store, transport, and dispose of asbestos (EXAMPLE: DOUBLE BAGGED, LABELED, TRANSPORT IN ENCL TRLR, ON-SITE STORAGE). Required.

"SCHEDULED START DATE"

The date the demo/reno cleanup activity is to begin. Required.

"SCHEDULED COMPLETE DATE"

The date the demo/reno cleanup date is to be completed. Required.

Waste Disposal Information

"DISPOSAL SITE"

List the name of the disposal site or facility used for disposal of the asbestos materials. Give the TDH or Texas Water Commission Permit Number for the disposal site, if known. Required. "ON-SITE DISPOSAL" is a valid entry.

"ADDRESS"

List the mailing address of the disposal site or facility used for disposal of the asbestos materials.

"CITY"

The name of the city or town where the disposal site is located.

"COUNTY"

Indicate the county in which the disposal site is located.

"STATE"

The state in which the disposal site is located.

"ZIP"

The five-digit mailing zip code for the city or town in which the disposal site is located.

"PHONE"

Telephone Number for the previous entry (EXAMPLE: (512) 451-5711).

TDH/TWC PERMIT #

TDH or Texas Water Commission Permit number for the disposal facility, if applicable.

Form Verification

SIGNATURE, TITLE OF CONTACT

The contractor or building owner representative responsible for reporting and oversight of the asbestos demo/reno activity should sign the Notification Form and include his/her position.

DATE

Date the Asbestos Demo/Reno Notification Form is being approved and submitted by the contractor or building owner's representative.

TELEPHONE NUMBER

Telephone number where the contractor or building owner's representative may be reached for more information.

Texas Air Control Board
ASBESTOS DEMOLITION/RENOVATION
NOTIFICATION FORM

(THIS SECTION FOR TACB USE ONLY)

☐ ADD
☐ CHANGE
☐ DELETE

* ASTERISKED ITEMS TO BE FILLED IN BY TECHNICAL SERVICES

DISTRIBUTION
Blue - Region/Local
Green - Region/Local
Canary - Data Entry
Pink - Dept. of Health

CNTY: *_____ SOURCE: *_____ PTNO: *_____ APST: *___
TACB ACCOUNT: ___-_____-__ FEDERAL FACILITY: __(Y/N) CMST: *__
NOTIFICATION RECEIVED DATE (MMDDYY):___/___/___ POSTMARK:___/___/___
INVESTIGATION DATE:___/___/___ INVESTIGATOR STAFFCODE: _____
INVESTIGATOR JURISCODE: _____ INVESTIGATION TYPE: _____
NOV SENT DATE:___/___/___ COMPLAINT:___/___/___ PSDB INV NO: _____
COMPLIANCE STATUS (C,N,U): ___ REVIEWER:_____

1) Removal Contractor:_____
Mailing Address:_____Phone:(____)_____
City:_____State:_____Zip:_____
TDH License No.:_____ Job Site Phone:(____)_____
Project Supv.:_____TDH License No.:_____
2) Other Contractor:_____
Mailing Address:_____Phone:(___)_____
City:_____State:_____Zip:_____
3) Facility Owner:_____
Mailing Address:_____Phone:(___)_____
City:_____State:_____Zip:_____
Principal Business:_____
4) Description of Facility
Name:_____
Address:_____City:_____
County:_____State:_____Zip:_____
Size:_____sq.ft. Age:_____yrs.
Prior Use:_____
5) Demolition: ___ Renovation: ___ Encapsulation: ___ Non-Friable: ___
6) Notification Type: ____ Planned ____ 10 Day ____ 20 Day
____ Renovation ____ Emergency ____ Ordered
Ordered By:_____
7) Amount Asbestos: _____ linear feet (pipes) _____ sq.ft. (other)
8) Method Of Removal:_____
_____
9) Scheduled Start Date: ___/___/___
10) Scheduled Completion Date: ___/___/___
11) Disposal Site:_____
Address:_____City:_____
County:_____State:_____Zip:_____
Phone: (____)_____TDH/TWC Permit No:_____

_____ _____ _____
(Signature, Title of Contact) (Date) (Telephone Number)

ACB-99

DEFINITIONS

AGE
Age of the structure in years (EX: 25 YRS).

AMOUNT ASBESTOS
Amount of asbestos removed (EX: 100 LIN.FT., 250 SQ.FT.)

CITY, STATE, ZIP
City, State, and Zip Code for the previous address.

COUNTY
Indicate the county in which the removal activity is taking place.

DEMOLITION
Check demolition only if the project includes the wrecking or taking out of a load-supporting structural member of the facility or the entire structure is being dismantled or removed. DESCRIPTION OF FACILITY Description of unit, building, floor, etc. where asbestos removal activity is taking place. (EX: FURNACE PIPING, HANGER BLDG, ADAMS JUNIOR HIGH SCHOOL).

ENCAPSULATION
Asbestos material will be coated with a sealant or enclosed behind a permanent barrier in lieu of removal from the site. Reporting is optional.

FACILITY OWNER
Name of the owner of the facility. Include a contact name, if possible. (EX: LONE STAR HOLDINGS; WILLIE B. TRUE, MGR).

JOBSITE PHONE
Telephone number where removal supervisors can be reached on the jobsite.

MAILING ADDRESS
Mailing address for the previous line.

METHOD OF REMOVAL
List the method or combination of methods used to control asbestos (EX: REMOVAL USING WET METHOD, or, ENCLOSURE WITH GYPSUM PANELS, OR, ENCAPSULATION WITH SEALANT). Include information on the control technique used when collecting collect asbestos (EX: HEPA VACUUM AND NEGATIVE AIR, OR, GLOVE BAG TECHNIQUE, ETC.), and the disposal method used to store, transport, and dispose of asbestos (EX: DOUBLE BAGGED, LABELED, TRANSPORT IN ENCL TRLR, ON-SITE STORAGE).

NON-FRIABLE
Project involves removal of any material containing more than 1 percent asbestos by weight that hand pressure cannot crumble, pulverize, or reduce to powder when dry. Reporting is optional.

NOTIFICATION TYPE
Planned - A renovation operation, or a number of such operations, in which the amount of friable asbestos material that will be removed within a given period of time can be predicted. Individual nonscheduled operations are included if a number of such operations can be predicted to occur based on experience.
10-Day - The amount of friable asbestos being removed is at least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components.
20-Day - The amount of friable asbestos being removed is less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) on other facility components.
Renovation - A routine renovation operation where notification should be submitted as early as possible before renovation begins.
Emergency - A renovation operation that was not planned but results from a sudden, unexpected event. This includes operations necessitated by nonroutine failures of equipment.
Ordered - If the facility is being demolished under an order of a State or local government agency, issued because the facility is structurally unsound and in danger of imminent collapse.
Ordered By - The name, title, and authority of the State or local governmental representative who has ordered the demolition.

OTHER CONTRACTOR
General Contractor, or Subcontractor hired by contractor to carry out portions of Demo/Reno Activities. See Removal Contractor.

PHONE
Telephone Number for the previous entry (EX: (512)451-5711).

PRINCIPAL BUSINESS
Type of Facility (EX: GENERATING STATION, PETROLEUM REFINERY, HOTEL, MILITARY BASE, CHILDREN'S HOSPITAL, SCHOOL DISTRICT).

PRIOR USE
Previous uses of the structure (EX: HOTEL, COOLING TOWER, BOILER ROOM, ETC.).

REMOVAL CONTRACTOR
Name of the primary asbestos removal contractor working at the site. Include a contact name, if possible.

RENOVATION
Check renovation if the project is limited to altering in any way one or more facility components. Operations in which load-supporting members are wrecked or taken out are excluded.

SCHEDULED START DATE
Date asbestos removal activity is scheduled to begin.

SCHEDULED COMPLETION DATE
Date asbestos removal activity is anticipated to be complete.

SIZE
Size of the structure in Square Feet.

TDH LICENSE NO. Texas Department of Health Contractor License Number. Include Project Supervisor's name and license number, if applicable.

TDH/TWC PERMIT NO.
Texas Department of Health or Texas Water Commission Permit number for the disposal facility, if applicable.

DISPOSAL SITE
List the name of the Disposal Site or Facility used for disposal of asbestos materials. "ON-SITE DISPOSAL" is a valid entry.

172 pgs

Fish & Wildlife Manuals

gif ID Numbers

rpt#	gif#	page #
RPT00127.AIM	{00127001.gif}	Fig 1-1
	{00127002.gif}	Fig 2-1
	{00127003.gif}	Fig 2-2
	{00127004.gif}	Fig 2-3
	{00127005.gif}	Fig 2-4
	{00127006.gif}	Fig 2-5
	{00127007.gif}	TABLE 3-1 pg 1 of 2
	{00127008.gif}	TABLE 3-1 cont 2 of 2
	{00127009.gif}	Fig 3-1
	{00127010.gif}	Fig 3-2
	{00127011.gif}	Fig 3-3
	{00127012.gif}	Fig 3-4
	{00127013.gif}	Fig 3-5
	{00127014.gif}	Fig 3-6
	{00127015.gif}	Fig 3-7
	{00127016.gif}	Fig 4-1
	{00127017.gif}	Fig 4-2
	{00127018.gif}	Fig 5-1
	{00127019.gif}	TABLE 6-2 pg 1 of 2
	{00127020.gif}	TABLE 6-2 cont 2 of 2
	{00127021.gif}	Fig 6-1
	{00127022.gif}	Fig 6-2
	{00127023.gif}	Fig 6-3
	{00127024.gif}	Fig 6-4
	{00127025.gif}	Fig 6-5
	{00127026.gif}	Fig 6-6
	{00127027.gif}	APPENDIX A-1 (Site 1)
	{00127028.gif}	APPENDIX A-1 (Site 1)
RPT00127.Aim	{00127029.gif}	APPENDIX A-1 (Site 1)

P:\WP\DOCS\F&W\GIFLOG

Fish & Wildlife Manuals

gif ID Numbers

rpt#	gif#	page #
RPT 00127, AIM	<00127030.gif>	APPENDIX A-1 (Site 1)
	<00127031.gif>	"
	<00127032.gif>	"
	<00127033.gif>	"
	<00127034.gif>	"
	<00127035.gif>	"
	<00127036.gif>	"
	<00127037.gif>	"
	<00127038.gif>	"
	<00127039.gif>	"
	<00127040.gif>	"
	<00127041.gif>	"
	<00127042.gif>	"
	<00127043.gif>	"
	<00127044.gif>	"
	<00127045.gif>	APPENDIX A-2 (Site 2)
	<00127046.gif>	"
	<00127047.gif>	"
	<00127048.gif>	"
	<00127049.gif>	"
	<00127050.gif>	"
	<00127051.gif>	APPENDIX A-3 (Site 3)
	<00127052.gif>	"
	<00127053.gif>	"
	<00127054.gif>	"
	<00127055.gif>	"
	<00127056.gif>	"
	<00127057.gif>	"
RPT 00127, AIM	<00127058.gif>	APPENDIX A-4 (SITE 4)

P:\WP\DOCS\F&W\GIFLOG

Fish & Wildlife Manuals

gif ID Numbers

rpt#	gif#	page #
RPT. 00127.Aim	<00127059.gif>	APPENDIX A-4 (SITE 4)
	<00127060.gif>	"
	<00127061.gif>	"
	<00127062.gif>	"
	<00127063.gif>	"
	<00127064.gif>	APPENDIX A-5 (SITE 5)
	<00127065.gif>	"
	<00127066.gif>	"
	<00127067.gif>	"
	<00127068.gif>	"
	<00127069.gif>	"
	<00127070.gif>	"
	<00127071.gif>	"
	<00127072.gif>	"
	<00127073.gif>	"
RPT00127.Aim	<00127074.gif>	APPENDIX C (Page 111)

P:\WP\DOCS\F&W\GIFLOG